FH-B166/MHC-600

SERVICE MANUAL

AEP Model

- FH-B166 and MHC-600 are composed of following models. As for the service manual, it is issued for each component models, then, please refer to it.

COMPONENT MODEL NAME FOR FH-B166 and MHC-600

System / Component	FH-B166
Tuner, deck, CD, amplifier	HCD-H160
Speaker System	SS-H155

System / Component	MHC-600
Tuner, deck, CD, amplifier	HCD-H600
Speaker System	SS-H700

SPECIFICATIONS

Power requirements	220 – 230 V, 50/60 Hz
Power consumption	90 watts
Dimensions	Approx. 615 x 285 x 260 mm (w/h/d) ($24^{1}/_{4} \times 11^{1}/_{4} \times 10^{1}/_{4}$ inches) incl. projecting parts and controls
Weight	Approx. 12.6 kg (27 lb 12 oz)
Supplied accessories	Remote commander (1) Sony SUM-3 (NS) batteries (2) AM loop antenna (1) FM lead antenna (1) (MHC-600 only)

Design and specifications subject to change without notice.

PARTS LIST

NOTE:

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description
		ACCESSORIES & PACKING MATERIALS
		**********
	1-501-369-11	ANTENNA (MHC-600)
	1-501-374-11	ANTENNA, LOOP
⚠	1-575-131-11	CORD, POWER
	1-575-495-11	CORD, SPEAKER (MHC-600)
	3-755-091-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, SPANISH, PORTUGUESE) (FH-B166;AEP/MHC-600)
	3-755-091-41	MANUAL, INSTRUCTION (GERMAN, DUTCH, SWEDISH, ITALIAN)
*	4-936-852-01	CUSHION (LOWER)
*	4-936-853-01	CUSHION (UPPER)
*	4-952-040-01	INDIVIDUAL CARTON (FH-B166)
*	4-952-041-01	INDIVIDUAL CARTON (MHC-600)

MICROFILM

COMPACT HI-DENSITY COMPONENT SYSTEM

SONY®

9-957-116-11

Sony Corporation
Audio Group

English
92D1849-1
Printed in Japan
©1992.4
Published by Customer Relations and Service Group

HCD-H160/H600

SERVICE MANUAL

PHOTO : HCD-H600

AEP Model

HCD-H160

HCD-H600

UK Model

HCD-H600

HCD-H160 and HCD-H600 are the tuner, deck, CD and amplifier section in FH-B166 and MHC-600 respectively.

COMPACT disc DIGITAL AUDIO

For the United Kingdum and European countries

CLASS 1 LASER PRODUCT
LUOKAN 1 LASERLAITE
KLASS 1 LASERAPPARAT

This appliance is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT label is located on the rear exterior.

CD Section	Model Name Using Similar Mechanism	HCD-H66/H1200
	Optical Pickup Block Type	BU-5BD3
Cassette Deck Section	Model Name Using Similar Mechanism	HCD-H66/H1200
	Tape Transport Mechanism Type	DECK A: TCM-170RA1
		DECK B: TCM-170RB7

SPECIFICATIONS

Tuner Section

System: FM stereo, FM/AM superheterodyne tuner

FM tuner section

Tuning range: 87.5 – 108 MHz

Antenna: Telescopic antenna (HCD-H160)
FM lead antenna (MHC-H600)

Antenna terminals: 75 ohms unbalanced

Intermediate frequency: 10.7 MHz

AM tuner section

Tuning range:
For AEP, UK, Germany model
MW: 531 – 1,602 kHz
LW: 153 – 279 kHz
For Italian model
MW: 522 – 1,611 kHz
LW: 144 – 288 kHz

Antenna: AM loop antenna, External antenna terminals

Intermediate frequency: 450 kHz

Amplifier Section

Continuous RMS power output: 20 + 20 watts (6 ohms at 1 kHz, DIN)

Inputs:
MIX MIC (minijack): sensitivity 1 mV, impedance 600 ohms
PHONO (phono jacks): sensitivity 5 mV, impedance 47 kilohms

Outputs:
HEADPHONES (stereo minijack): accepts headphones of 8 ohms or more.
SPEAKER: accepts speakers of 6 to 16 ohms.

— continued on next page —

MICROFILM

Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol ⧈ are trademarks of Dolby Laboratories Licensing Corporation.

COMPACT DISC DECK RECEIVER

SONY®

Compact Disc Player Section

System	Compact disc digital audio system
Laser	Semiconductor laser (λ = 780 nm) Emission duration: continuous
Laser output	Max. 44.6 µW* * This output is the value measured at distance of about 200 mm from the objective lens surface on the Optical Pick-up Block.

Cassette Deck Section

Recording system	4-track 2-channel stereo
Frequency response	(DOLBY NR OFF) 40 – 13,000 Hz (±3 dB), using TYPE I cassette (Sony HF-S) 40 – 14,000 Hz (±3 dB), using TYPE II cassette
Wow and flutter	0.1% WRMS ±0.3% (DIN)

General

Power requirements	**AEP model:** 220 – 230 V, 50/60 Hz U K model: 240 V, 50 Hz **Germany, Italian model: 240V AC, 50Hz**
Power consumption	**Except for** model: 90 watts U K model: 160 watts
Dimensions	Approx. 615 x 285 x 260 mm (w/h/d) ($24^1/_4 \times 11^1/_4 \times 10^1/_4$ inches) incl. projecting parts and controls
Weight	Approx. 12.6 kg (27 lb 12 oz)
Supplied accessories	Remote commander **(RM-S100)** (1) Sony SUM-3 (NS) batteries (2) AM loop antenna (1) FM lead antenna (1) (**HCD-H600** only)

Design and specifications subject to change without notice.

Note
This appliance conforms with EEC Directive 87/308/EEC regarding interference suppression.

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SAFETY-RELATED COMPONENT WARNING!!

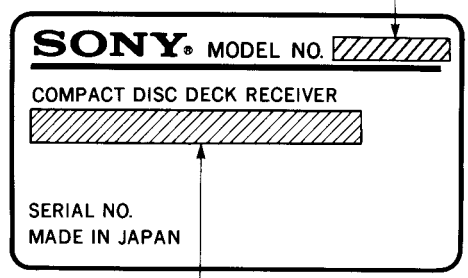
COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SECTION 1
SERVICING NOTES

MODEL IDENTIFICATION

— Specification Labels —

AEP, Germany Italian model: HCD-H160
AEP, UK model: HCD-H600



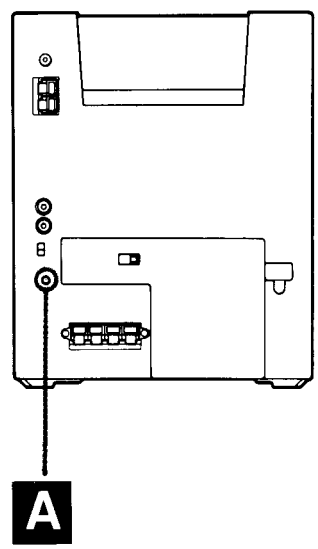
AEP model: AC: 220−230V~50/60Hz
UK model: AC: 240V~50Hz
G, IT model: AC: 220−230V~50Hz

On operation A

- When you connect the AC power cord for the first time or after several days of disconnection, press the system reset button located at the rear of the unit.
- If the system do not operate due to power noise, press the system reset button at the rear. The system will resume operation.

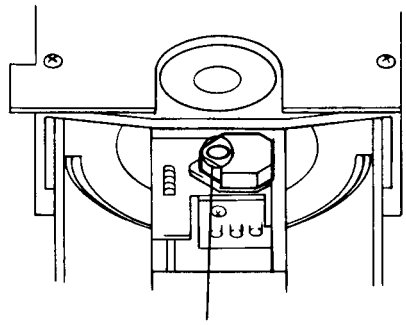
  At this time, the system returns to the factory-set mode. Please set the clock, timer, or store stations again.

If you have any question or problem concerning your stereo system, please consult your nearest Sony dealer.



LASER DIODE AND FOCUS SERCH OPERATION CHECK

1. Make POWER switch on with no disc inserted and disc table closed.
2. Confirm that the following operation is performed while observing the objective lens.



❶ Confirm that laser beam is spread.
❷ Up and down motion of the objective lens. (3 times)

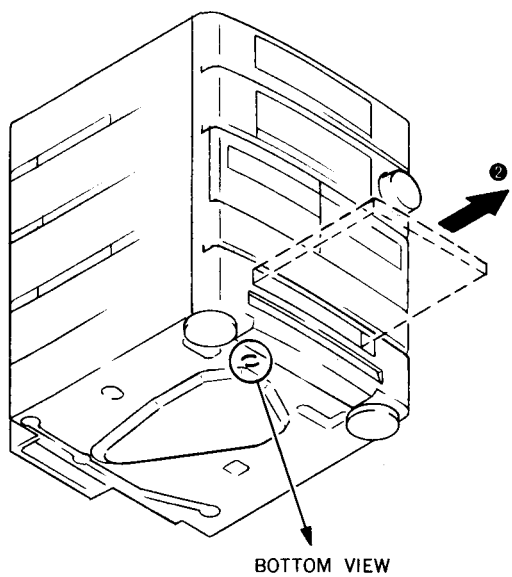
NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

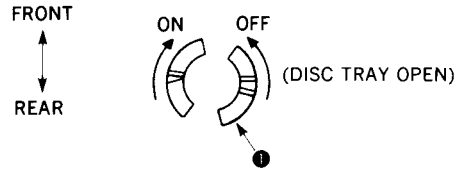
The laser diode in the optical pick-up block may suffer electrostatic break-down because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic break-down and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

HOW TO OPEN THE DISC TRAY WHEN POWER SWITCH TURNS OFF





(1) Insert to ❶ for tapering driver, etc., and turn in the direction of arrow OFF. (Disc tray open)
(2) Tray as come out little of front panel, pull out in the direction of arrow ❷ by hand.

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs a laser. Therefore, be sure to follow carefully the instructions below when servicing.

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

1. Laser Diode Properties
   - Material: GaAlAs
   - Wavelength: 780 mm
   - Emission Duration: continuous
   - Laser Output Power: less than 44.6 μW*

     * This output is the value measured at a distance of 200 mm from the objective lens surface on the Optical Pick-up Block.

2. During service, do not take the Optical Pick-up Block apart, and do not adjust the APC circuit. If there is a breakdown in the APC circuit (including laser diode), replace the entire Optical Pick-up Block (including APC board).

BESKYTTELSE AF ØJNE MOD LASERSTRÅLING UNDER SERVICE

I dette apparat, anvendes laserlys. Derfor skal nedenstående instruktioner nøje følges under service.

Følg iøvrigt instruktionerne i servicemanualen.

ADVARSEL!!

Under service må øjnene ikke komme nær objektiv-linsen på den optiske pick-up enhed. I tilfælde af at det er nødvendigt at kontrollere udsendelsen af laserlys, skal det ske i en afstand af mere end 25 cm fra den optiske pick-up.

1. Laser-didoe data
   - Materiale: GaAlAs
   - Bølgelængde: 780 nm
   - Udstråling: Kontinuerlig
   - Laseroutput: Max. 0,4 mW*

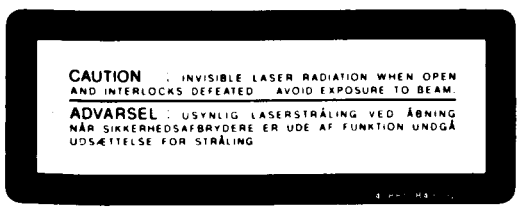
     * Målt i 1,6 mm afstand fra overfladen af objektiv-linsen pa den optiske pick-up enhed.
   - Klassifikation: Klasse IIIb.

2. Adskil aldrig den optiske pick-up enhed under service, og juster ikke APC kredsløbet (Automatic Power Control). Hvis APC kredsløbet (incl. laser-dioden) bryder ned, skal hele den optiske pick-up enhed (incl. APC printkortet) udskiftes.

LASER ADVARSEL MÆRKNING

Følgende mærkning findes indvendig i apparatet:

1. Advarsel Mærkning


CAUTION : INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED AVOID EXPOSURE TO BEAM.
ADVARSEL : USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION UNDGÅ UDSÆTTELSE FOR STRÅLING

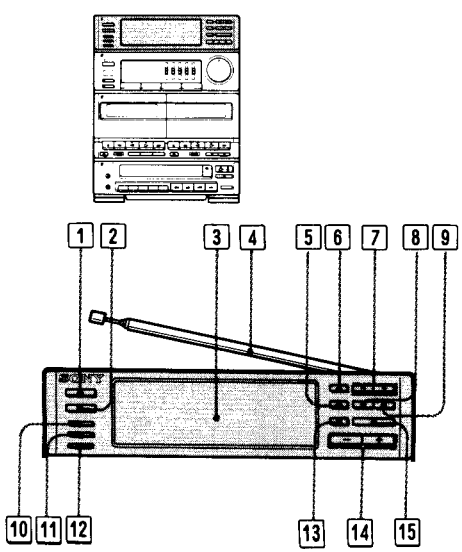
VAROITUS: Laite sisältää, laserdiodin, joka lähettää (näkymätöntä) silmille vaarallista lasersateilyä.

Parts Identification

Tuner Section A

1 TIMER CONTROL button
2 SLEEP timer button
3 Display window
4 Telescopic antenna (FH-B166 only)
5 AUTO tuning button
6 BAND selector
7 TUNING –/+ buttons
8 MEMORY button
9 ENTER button
10 TIMER SET button
11 CLOCK DISPLAY button
12 CLOCK SET button
13 NEXT button
14 PRESET/TIMER +/– (preset station scan/time set) buttons
15 SHIFT (memory page select) button

A

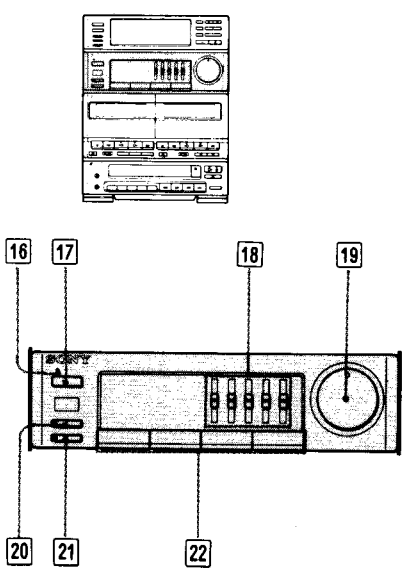


Amplifier Section B

16 STANDBY indicator
It is lit as long as the AC power cord is connected to a wall outlet.
17 POWER switch
18 5-band stereo graphic equalizer
19 VOLUME control
20 DBFB (Dynamic Bass Feedback) button

20 S-SUR (simulated surround) effect button
22 Function selectors

B

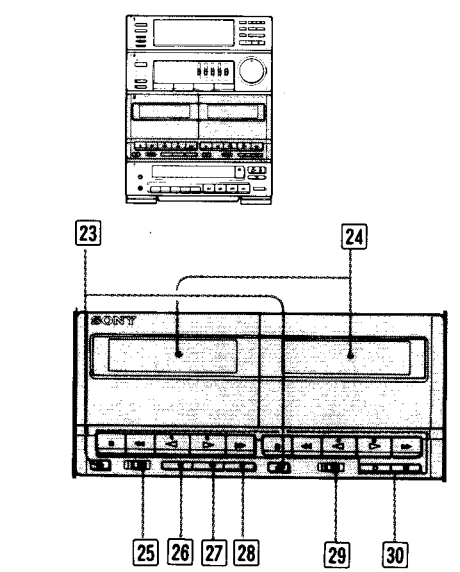


Cassette Deck Section C

23 EJECT button
24 Cassette holders
25 DIRECTION MODE selector
26 AMS/BLK SKIP (Automatic Music Sensor/blank skip) button
27 TAPE DUBBING HIGH SPEED button

28 CD SYNCHRO (CD synchronized recording) button
29 DOLBY NR (Dolby Noise Reduction) switch
30 Tape operation buttons
◀◀ / ▶▶: Fast winding
▷: Forward play
◁: Reverse play
■ : Stop
REC (recording)
PAUSE

C



This section is extracted from instruction manual.

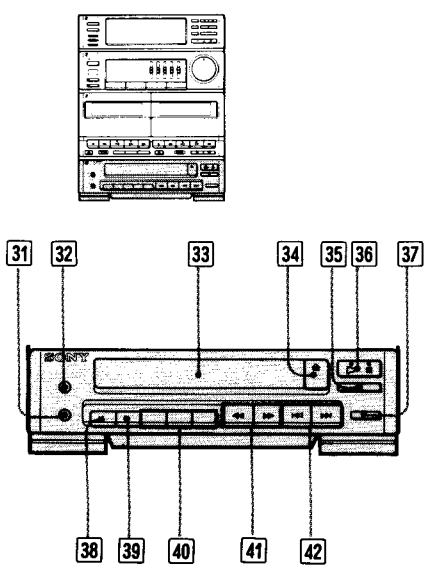
CD Player Section D

31 HEADPHONES jack (stereo minijack)
32 MIX MIC (mixing microphone) jack (minijack)
33 Disc compartment
34 ⏏ OPEN/CLOSE button
35 ■ (stop) button
36 ▷II (play/pause) button and indicator
37 EDIT button
38 TIME display selector
39 REPEAT button
40 PLAY MODE selectors
CONTINUE play button
SHUFFLE play button
PROGRAM play button
41 ◀◀ / ▶▶ (manual search) buttons
42 ⏮ / ⏭ (Automatic Music Sensor) buttons

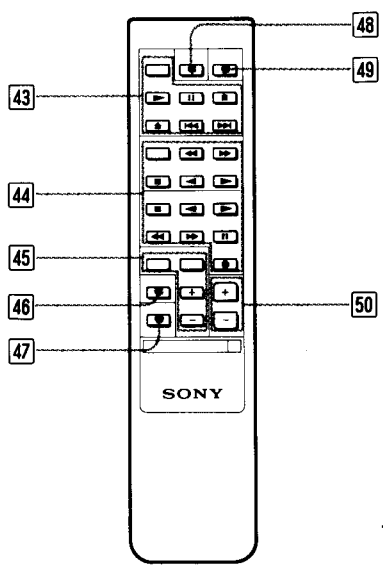
Remote Commander E

43 CD player operation buttons
44 Cassette deck operation buttons
45 Tuner operation buttons
46 PHONO select button
47 VIDEO/AUX select button
48 SLEEP timer button
49 POWER switch
50 VOL (volume) +/– control buttons

D



E



Clock Setting

Setting the Clock

Example: Set to 9:25 in the morning.
When the AC power cord is connected, the display shows 0:00.

1 **Press CLOCK SET.**

2 **Set the hour with PRESET/TIMER +/– buttons**

3 **Press NEXT.**

4 **Set the minute with PRESET/TIMER +/– buttons.**

5 **Press NEXT.**
The clock starts operating.

Information on the time

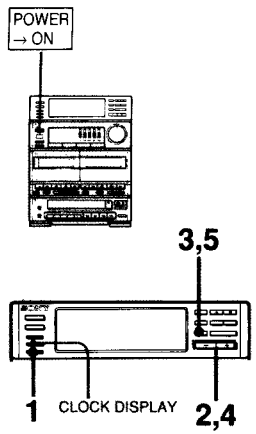
This model shows the time in 24-hour cycle.

When a power interruption occurs

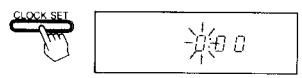
The power is backed up for approximately one day. If the power is recovered within one day, there is no need to reset the clock and timer. If it is longer than one day, both the clock and timer settings are erased, and "0:00" will flash on the display.

To check the present time while using the system

Press CLOCK DISPLAY.
The time display disappears after a few seconds.



1



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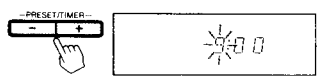
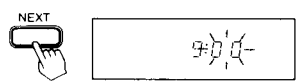


3



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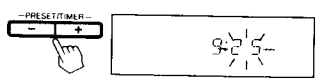

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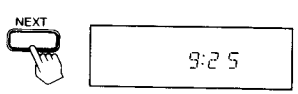


Audio Adjustment

Volume Adjustment

Turn VOLUME **A** clockwise to increase the sound level, or counterclockwise to decrease it.

Sound Quality Adjustment

To reinforce bass

Press DBFB **B**.
The lower the sound level is, the more the bass is emphasized.

To adjust sound quality to your preference

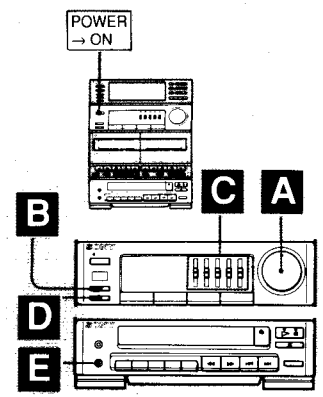
Adjust the graphic equalizer controls **C**.

100 Hz: Boost or cut heavy bass.
400 Hz: Adjust the power, spaciousness and warmth of the sound.
1 kHz: Increase the presence of vocals.
4 kHz: Enhance the brightness of sound, or reduce stridency.
12 kHz: Highlight the fine details of instrumental sound.

To activate surround effect for stereo sound

Press S-SUR (simulated surround) **D** during a stereo sound reproduction. This creates the atmosphere of a movie theater or concert hall.
This function is not effective for a monaural sound.

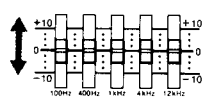
For personal listening
Connect headphones to HEADPHONES **E**.
No sound comes from the speakers.



A

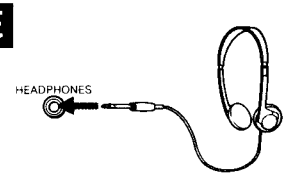
B

C



D

E



Radio

The automatic tuning allows you to receive stations whose signal is strong enough. When the signal is too weak, use the manual tuning.

Tuning in Automatically

1 Press TUNER.

2 Press BAND repeatedly until the desired band appears.
As you press BAND, the band changes as follows:
FM → MW → LW

3 Press AUTO.
Make sure that AUTO appears in the display.

4 Select the station with TUNING + or –.

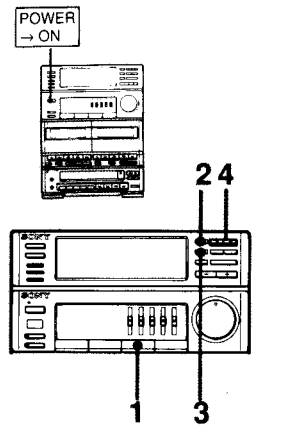
Tuning in Manually

1 Press TUNER.

2 Select band by pressing BAND.

3 Press AUTO so that AUTO disappears from the display.

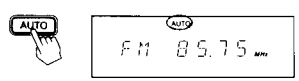
4 Select the station with TUNING + or –.



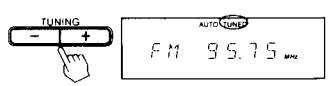
1

2

3



4



Radio

A total of 30 stations can be stored in any desired sequence, so that you can tune in the stored station directly by entering the memory page and number.

Storing Stations

1 Tune in the desired station.

2 Press MEMORY.
MEMORY appears for several second.

3 While MEMORY is on, press SHIFT to select the memory page (A, B or C).
The memory pages (A, B or C) can be classified according to the music category, station band, etc.

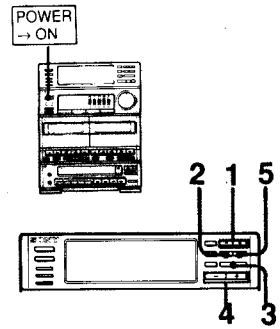
4 While MEMORY is on, press PRESET/TIMER + or – to select the number (1 to 10).

5 Press ENTER.
MEMORY disappears, and the station is stored.

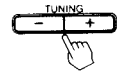
6 Repeat 1 to 5 for each stations to be stored.

If you cannot store a station successfully
Press MEMORY again so that MEMORY appears, and then proceed with the steps 3 to 5 above.
Be sure to operate while MEMORY is on (approx. 4 seconds.)

When you have selected the wrong page and number
Press MEMORY and then proceed with the above steps.



1



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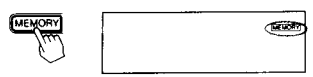

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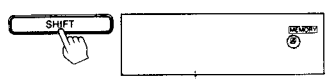

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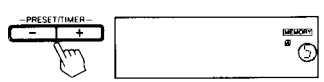

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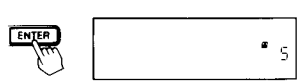


Radio

To Tune in a Preset Station

1 Press SHIFT to select the memory page.

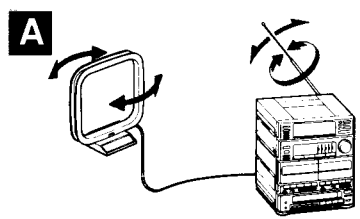
2 Press PRESET/TIMER + or – to select the desired number.

Indicator on the display

TUNED: Appears when a station of sufficient signal strength is tuned in.
STEREO: Appears when an FM stereo program of sufficient signal strength is received.

Antenna adjustment A

For FM reception, adjust the length and direction of the telescopic antenna (FH–B166 only).
For MW and LW reception, find the best location of the AM loop antenna.



Can a previously stored station be erased?
No. Erasing only is not possible, but storing a new station erases the previous one.

Important

The stored stations remain for approximately 1 week even if no power is supplied (e.g. the power cord is disconnected, etc.). If they are erased, store the stations again.

Disc Playing

Playing the Entire Disc

1 Press CD.

2 Press ⏏ OPEN/CLOSE to open the tray.

3 Place the disc with the printed side up.

4 Press ▷II.
The tray closes and play starts.
The display shows A the track number, B elapsed playing time of the track and C track numbers.

Caution on adjusting volume
Do not turn up the volume while listening to the portion with very low level inputs or no audio signals. If you do, the speakers may be damaged when a peak level portion is played.

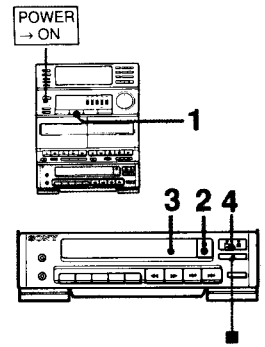
To stop play
Press ■.

To stop for a moment during play
Press ▷II. II appears in the display.
To resume play, press it again.

To stop play and open the tray
Press ⏏ OPEN/CLOSE.

To play an 8 cm (3-inch) CD
Place it on the inner circle of the tray. If the disc is provided with an adaptor, first remove it. Do not put a normal CD (12 cm/5-inch) on top of an 8 cm (3-inch) CD.

When the TUNER function is selected
The CD player section does not operate. This prevents interference to radio reception.



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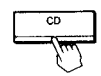

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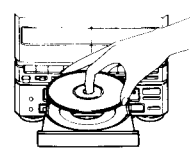

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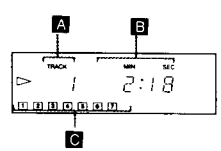


Disc Playing

Locating a Particular Selection — Automatic Music Sensor (AMS)

The AMS locates the beginning of a selection.
This function works during play or pause.

To locate the beginning of the current or preceding selection A-1

Press ⏮ as many times as required.
Keep ⏮ pressed to skip selection.

To locate the beginning of a succeeding selection A-2

Press ⏭ as many times as required.
Keep ⏭ pressed to skip selection.

Locating a Particular Point in a Selection

You can locate any particular point in the disc during play.

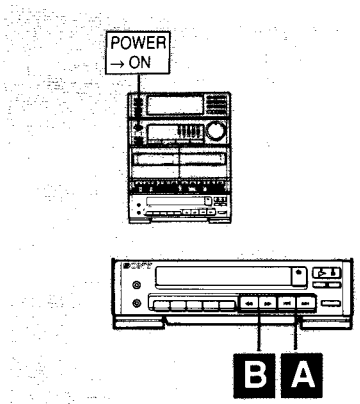
To search while monitoring the sound

To move forward at high speed B-1
Keep ▶▶ pressed during play and release at the desired point.

To move backward at high speed B-2
Keep ◀◀ pressed during play and release at the desired point.

To search quickly

1 Press ⏯ to set the unit in pause mode.
2 Keep ◀◀ or ▶▶ pressed.
The search speed increases, but there is no sound. Find the desired point by observing the display.
Press ⏯ again at the desired point.



A-1

A-2

B-1

B-2

Disc Playing

Information display

To change the time display, press TIME during play.
As you press TIME, the display changes to give you the following information.

A Elapsed playing time
B Remaining time in a selection. If the current selection number is over 20, "--:--" is displayed.
C Remaining time of the disc

When the tray was closed by pressing ⏏ OPEN/CLOSE D

The followings appear for approx. 5 seconds.

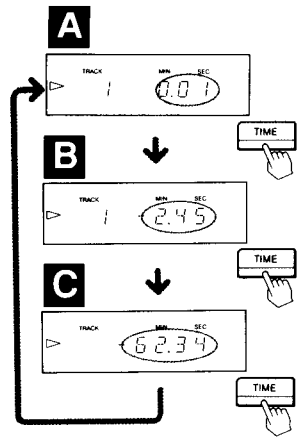
a Last track number
b Total play time of the disc
c Track numbers

For the discs containing 17 selections or more, up to 16 appear and the rest does not appear.

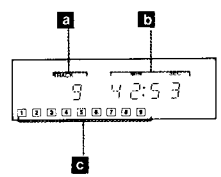
Notes on handling discs E

- To keep the disc clean, handle the disc by its edge. Do not touch the surface. a
- Do not stick paper or tape on the disc. b
- Do not expose the disc to direct sunlight or heat sources such as hot air duct, nor leave it in a car parked in direct sunlight as there can be a considerable rise in the temperature.
- After playing, store the disc in its case.

A



D



E

a

b

HCD-H160/H600

Disc Playing

Playing in a Random Order — Shuffle Play

Shuffle play function plays all the selections in a random order.

1 **Press ≜ OPEN/CLOSE to open the tray.**

2 **Place the disc.**

3 **Press ≜ OPEN/CLOSE to close the tray.**

4 **Press SHUFFLE.**
SHUFFLE appears.

5 **Press ▷II.**

To stop playing
Press ■.

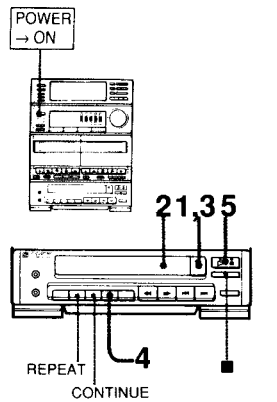
To cancel shuffle play
Press CONTINUE.
SHUFFLE disappears, and play continues in normal play mode.

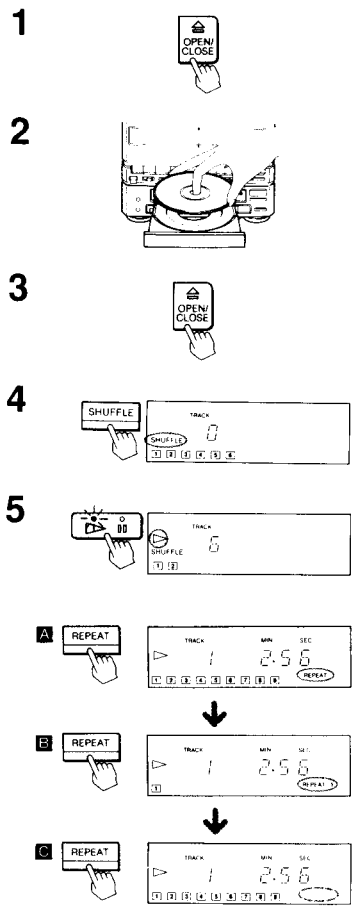
Playing Repeatedly — Repeat Play

To repeat all selections A
Press REPEAT once during play so that REPEAT appears.

To repeat a single selection B
Press REPEAT twice while playing the desired selection so that REPEAT 1 appears.

To cancel repeat play C
Press REPEAT so that neither REPEAT nor REPEAT 1 is on.





Disc Playing

Playing in a Desired Order — Program Play

You can make a program for up to 20 selections in the order you want them to be played.

1 **Insert the disc.**

2 **Press PROGRAM.**
PGM appears in the display.

3 **Press ⏮ or ⏭ to display the desired selection.**

4 **Press PROGRAM.**

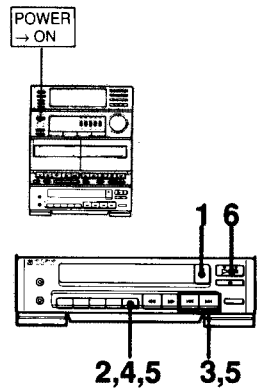
5 **Repeat steps 3 and 4 for the desired selections.**
- A Last programmed selection
- B Total playing time of selections
- C Programmed selection numbers

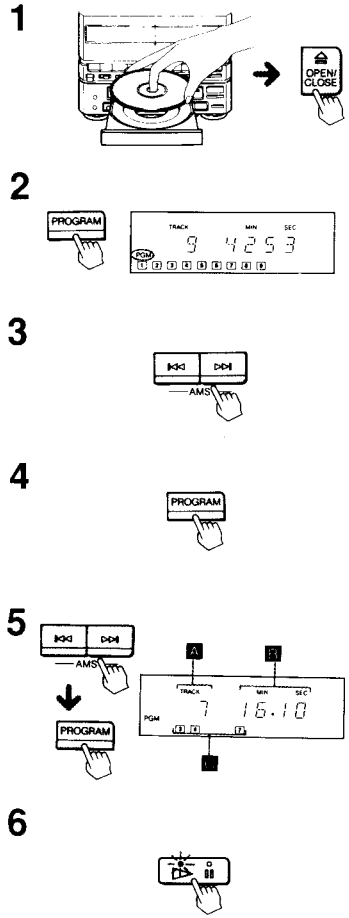
6 **Press ▷II.**

To stop playing
Press ■.
To restart the same program play, press ▷II.

To resume normal play
Press CONTINUE.
The program is erased and the play continues in the normal play mode.

If "----" is displayed
- You have programmed a selection number over 20.
- The total time has exceeded 100 minutes.





Disc Playing

To check your program

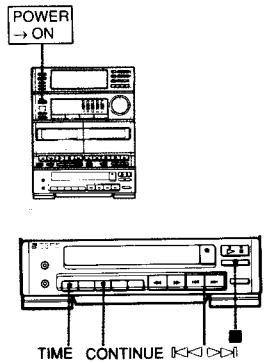
1 Press ▷/II to enter the pause mode.
2 Press ↓ ▷/II.
As you press ▷/II, the track numbers appear in the order in which they are programmed.
When you finished checking, press ■ once. (Be sure that you press ■ only once. If you press it twice, the program will be erased.)

To add a selection to the end of the program

Follow the same procedures as "Playing in a Desired Order" while the unit is in the stop mode.
You cannot add selections during play.

To erase the entire program

Press ■ once during stop; twice during play.
The program is also erased when you press ⏏ to open the tray or turn off the system.



To check the remaining time
Press TIME once to see the remaining time of the selection being played; twice to see the total remaining time of the programmed selections; once more to return to the initial display.

Tape Playback

Playback Operation

1 Press TAPE.
TAPE appears in the display.

2 Insert the tape.

3 Press ◁ (for reverse side playback) or ▷ (for front side playback).

How to select the DIRECTION MODE position

To playback one side: Select ⇉.
To playback both sides: Select ⇄
The DIRECTION MODE setting is effective for both decks.

To stop playback
Press ■.

Playing Back Automatically after Fast Winding – Auto Play

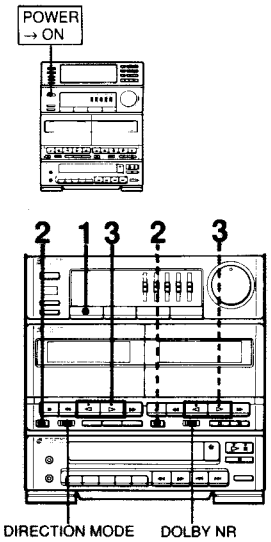
This function starts playback automatically from the beginning of the side after fast winding.

To start playback from the beginning of the front side:
press ▷ while keeping ◀◀ pressed
To start playback from the beginning of the reverse side:
press ◁ while keeping ▶▶ pressed.

When listening to the cassette recorded with Dolby noise reduction system*
Set the DOLBY NR switch to ON.

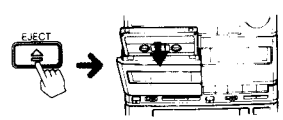
What is the Dolby NR system?
Dolby NR (noise reduction) system reduces tape hiss noise in low-level high-frequency signals. The system boosts these signals in recording and lowers them in playback.

* Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol ⧈ are trademarks of Dolby Laboratories Licensing Corporation.



1

2



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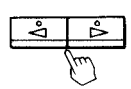
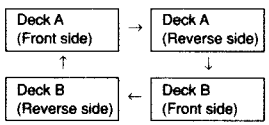


Tape Playback

Playing Both Decks in Succession – Relay Play

Relay play always follows the sequence below regardless of where playback starts. When playback of the reverse side of the tape in deck B is completed, the following sequence continues 4 more times.



1 Insert recorded cassettes in both decks.

2 Set DIRECTION MODE to RELAY.

3 Press ▷ or ◁ on deck A or deck B.

To stop relay play
Press ■ of the deck playing.

Notes on Cassettes

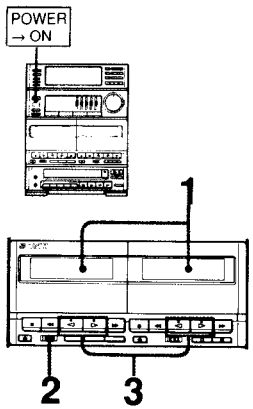
To protect recording A

Break out the tab on the left shoulder of the cassette side of which recording is to be protected.

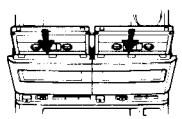
To re-record the cassette B

Cover each slot with plastic tape.

When using a TYPE II ($C\text{-}O_2$) cassette, be careful not to cover the detector slots which are necessary for automatic tape type detection. C



1



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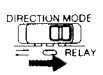

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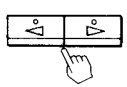
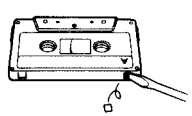
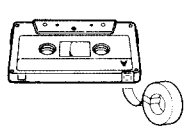


A



B



C

Tape Playback

Locating the Beginning of a Selection during Playback – Automatic Music Sensor (AMS)

The AMS locates the beginning of a selection by detecting the blank spaces between selections. To assure correct operation of the AMS, there must be a blank of 4 seconds or longer between selections.

1 Press ▷ or ◁ to start playback.

2 Press AMS/BLK SKIP to illuminate its indicator.

3 Press ▶▶ or ◀◀ referring to the following table.

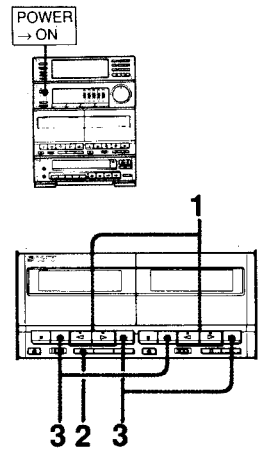
Direction indicator	Side of the cassette being played	Desired selection	
		Next selection	Selection being played
☀ ▷	Front side	▶▶	◀◀
☀ ◁	Reverse side	◀◀	▶▶

Skipping a Blank

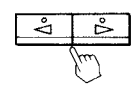
The deck automatically goes into the fast winding mode when it detects a blank of about 10 seconds or more.
Playback resumes when a new selection begins.

Press AMS/BLK SKIP to illuminate its indicator. A

To cancel the blank skip function
Press AMS/BLK SKIP again so that the indicator goes off.

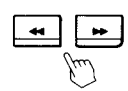


1



2

3



A

Recording (Deck B)

Recording Operation

Use only TYPE I (normal) or TYPE II (CrO_2) tapes for recording.

1 Insert the tape.

2 Select program source with the function selectors and play it.
The display shows the selected program source.

3 Set DIRECTION MODE.
To record one side, set to ⇒.
To record both sides, set to ⇄.

4 Set DOLBY NR.
To use the Dolby NR system, set to ON.
Otherwise, set to OFF.

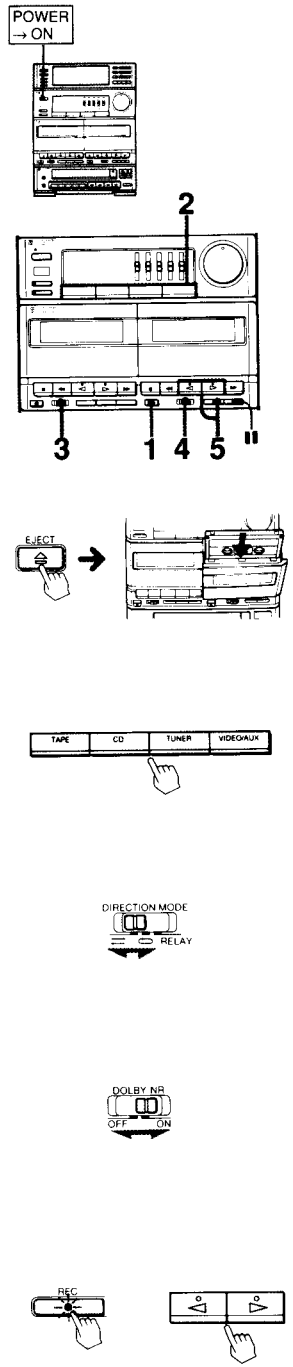
5 While keeping REC pressed, press ▷ (for front side recording) or ◁ (for reverse side recording).
Recording starts.

To stop recording
Press ■

Notes
- Even if you set DIRECTION MODE to ⇄, recording stops at the end of the reverse side. To record both sides, be sure to start with the front side.
- Graphic equalizer controls are not effective for recording.
- The recording level is fixed and cannot be adjusted manually.

How to start recording precisely
1 Press PAUSE after step 4 in "Recording Operation" above.
2 While keeping REC pressed, press ▷ or ◁.
3 Press PAUSE again at the desired point.

If whistling noise is heard during recording MW and LW recording
Slide the ISS (Interference Suppress Switch) at the rear to the position depending on which best reduces the noise.



CD Recording (Deck B)

CD Recording Operation

1 Insert a blank tape in deck B.

2 Set DIRECTION MODE.
To record one side, set to ⇒.
To record both sides, set to ⇄.

3 Set DOLBY NR.
To use the Dolby NR system, set to ON.
Otherwise, set to OFF.

4 Press CD of the function selector.

5 Place the disc with the printed side up, and close the tray.

6 Press CD SYNCHRO.
CD SYNC appears in the display.
The CD player and cassette deck are set in pause mode.

Note
The front side is automatically selected to be recorded in. To record in the reverse side, press ◁.

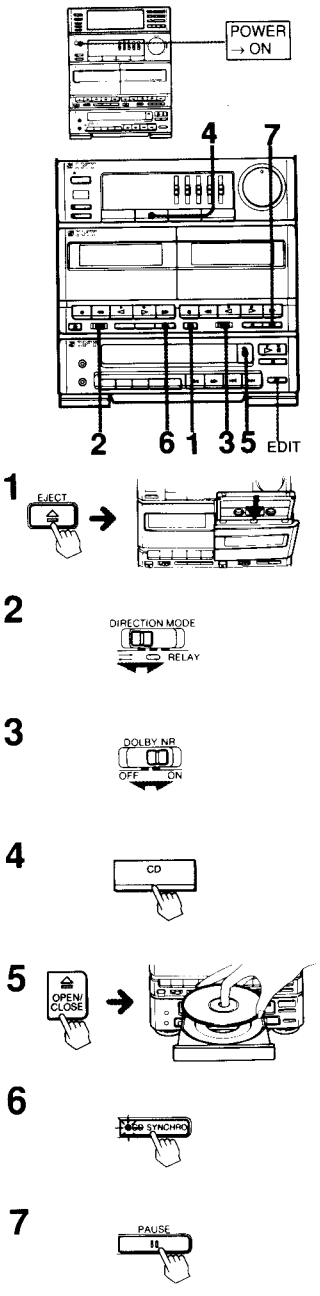
7 Press PAUSE of the cassette deck.
The CD play and recording start simultaneously.

Note
When the tab on the cassette has been removed, the CD SYNCHRO button does not operate.

Is it possible to listen to program sources other than CD during CD recording?
No. If you press another function selector, the CD play stops and the program of the pressed button will be recorded.

Blanks between selections during CD recording
A 3-second blank is automatically inserted between selections.

Is it possible to adjust the sound quality for CD recording?
No. The graphic equalizer does not work.



CD Recording (Deck B)

If the tape ends in the middle of a selection A

The tape is rewound to the beginning of the selection. Then the selection is re-recorded so that it fades out naturally at the end of the tape.

If the recording is to be continued to the reverse side, the selection that faded out on the front side is recorded from its beginning on the reverse side.

To record only desired selections

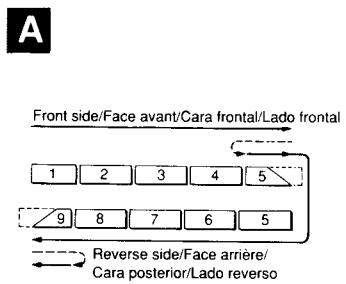
Before pressing CD SYNCHRO, program the desired selections. (See page 36.)
To program for both sides continuously, insert a pause section between the selections for side A and those for side B.

1 Program the selections for side A.
2 Press CD for CD operation on the remote commander.
The total play time will be reset to 0.
3 Program the selections for side B.
4 Press CD SYNCHRO.
5 Press PAUSE on the cassette deck.
Recording starts.

When the CD play of side A ends, the CD player enters pause mode. When the tape comes to the beginning of side B, the CD play of side B starts and the recording starts automatically.

Important

- Total playing time of the program of each side must be within the length of each side of the tape.
- Up to 20th selection in the disc can be programmed. 21st selection cannot be programmed.



CD Recording (Deck B)

Editing the CD for Recording

The CD player automatically edits the selections on a CD according to the tape length.

1 Perform 1 to 5 of the CD recording operation, on page 48.

2 Press EDIT.
Make sure that EDIT and - - - - appear in the display.

3 Designate the tape length of one side using ▶▶, and ◀◀, or ▷▷| and |◁◁.
As you press ▶▶ or ◀◀, the minute display changes as follows:

23 ↔ 27 ↔ 30 ↔ 37 ↔ 45 ↔ - -

As you press ▷▷| or |◁◁, the seconds increase or decrease by 10. After 50, the seconds show 00 and the minutes increase by 1.

4 Press EDIT.
The selections to be recorded are determined automatically. For details, see page 54.
Then the display shows A the last selection to be recorded, B total playing time, and C selections to be recorded.

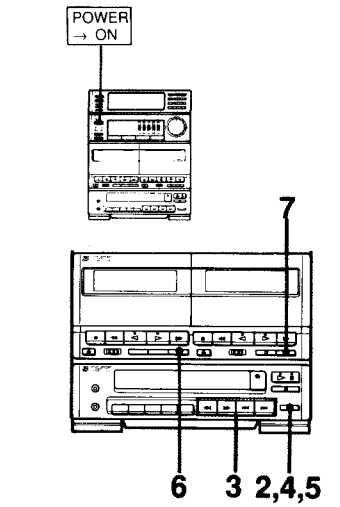
5 For recording both sides, press EDIT again.

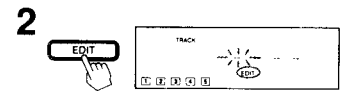
6 Press CD SYNCHRO.

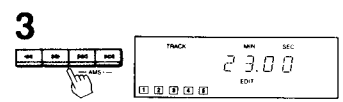
7 Press PAUSE of the cassette deck.
The recording starts.

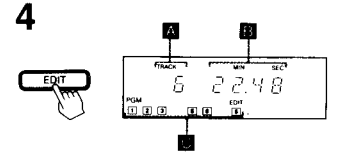
Note

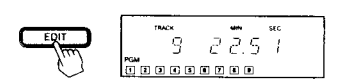
- Up to 20th selection in the disc can be recorded. 21st selection cannot be recorded.
- Designate the total playing time shorter than the tape length in step 3.

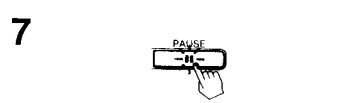












CD Recording (Deck B)

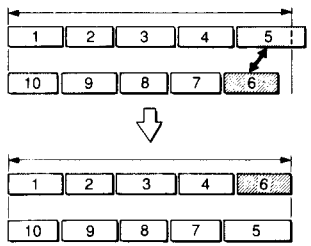
To record desired selections on the front side

Before pressing EDIT, program the desired selection. (See page 36.)

How the CD player determines the selections A

The CD player selects the selections from the first one in the CD, summing up each playing time. When the total playing time exceeds the specified tape length, the last selection is eliminated. Then, the CD player looks for a selection whose length is within the remaining tape and substitutes it for the eliminated one.

A



Tape Dubbing (from deck A to B)

Dubbing the Whole Tape

1 Insert the recorded tape in deck A and the blank tape in deck B.

2 Set DIRECTION MODE.
To dub on one side: ⇉
To dub on both sides of the tapes with the same length: ⇄
To dub on both sides of the tapes with the different length: RELAY

3 Press HIGH SPEED.

4 Press PAUSE.
High speed dubbing starts.

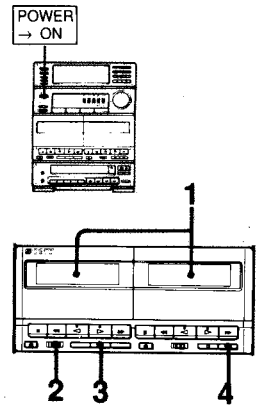
To stop dubbing
Press ■ on either deck A or B.
The tapes in both decks stop.

Note on DIRECTION MODE setting

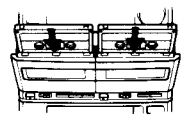
Position	Operation
⇉	Dubbing stops at the end of the tape.
⇄	When the tape in one deck comes to its end, it reverses immediately regardless of the tape position of the other deck.
RELAY	When the tape in one deck reaches its end, it stops until the other tape also comes to its end, and then both tapes reverse together.

When dubbing starts from the reverse side in the RELAY mode
At the end of the reverse side, dubbing stops automatically.

Note
During high speed dubbing, only ■ is operative.



1



2

3

4

Tape Dubbing (from deck A to B)

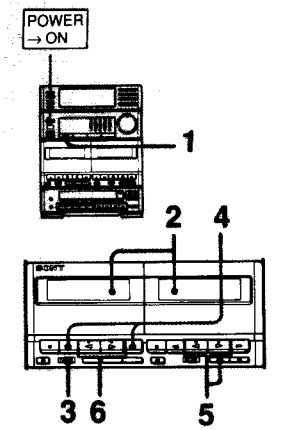
Editing the Tape

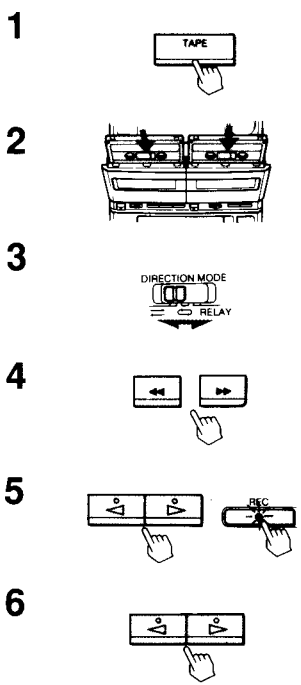
1 Press TAPE of the function selector.
2 Insert the recorded tape in deck A and the blank tape in deck B.
3 Set DIRECTION MODE to ⇄ or ⟲.
4 Locate the beginning of the portion to be dubbed on deck A, using ◀◀ or ▶▶ and then stop the tape.
5 While keeping REC pressed, press ◁ or ▷ of deck B.
6 Press ◁ or ▷ of deck A.
Normal speed dubbing starts.

To stop dubbing
Press ■ on both decks.

Is it necessary to set DOLBY NR?
No. The tape in deck B is automatically recorded in the same state as the tape in deck A.

Is it possible to listen to program sources other than tape during dubbing?
During high speed dubbing, yes. Any program source can be selected with the function selectors.
During normal speed dubbing, no. The source changes to that of the function selector pressed and the tape playback cannot be dubbed.





Timer-activated Operation

The power can be turned on and off automatically so that you can record a radio program while you are out, or wake up to music, etc.

The preset timer-on and -off time remain until you reset them or the power cord is disconnected.

Before setting the timer

- Make sure the clock is set correctly. (See page 18.)
- If you want to record a radio program, be sure to insert a cassette tape long enough.

Timer Setting

The illustrations show an example that the system turns on at 9:30 and off at 10:15.

1 **Press TIMER SET.**
TIMER ON appears and a figure indicating hour blinks.

2 **Set the hour and minute of the timer-on time with PRESET/TIMER + or – and NEXT.**
TIMER OFF appears and a figure indicating hour blinks.

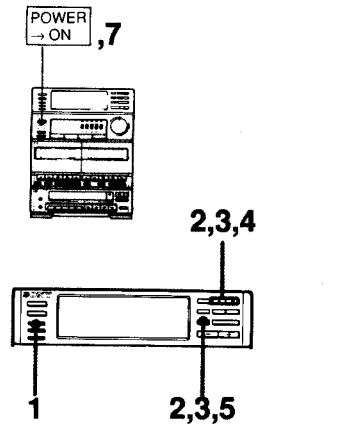
3 **Set the hour and minute of the timer-off time with PRESET/TIMER + or –, and NEXT.**
The program source blinks.

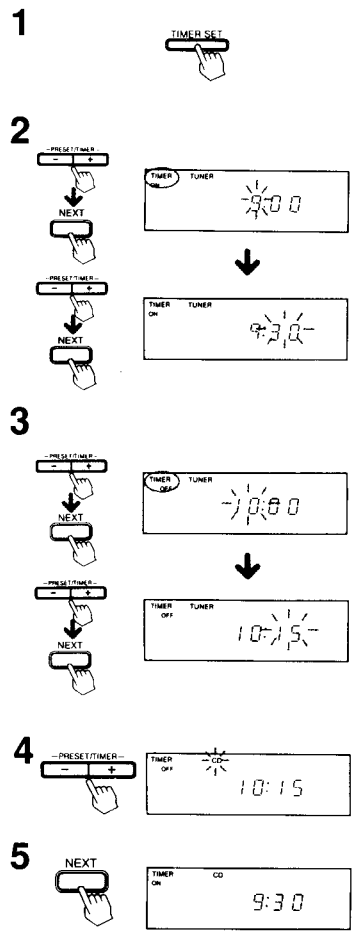
4 **Select the program source with PRESET/TIMER + or –.**
As you press + or –, the source changes:
TUNER ↔ TUNER REC ↔ TAPE ↔ CD

5 **Press NEXT.**

6 **Prepare for the source, selecting a stored station, inserting the disc or tape.**

7 **Press POWER to turn off the system.**
Make sure that TIMER is on.
At the timer-on time, the system turns on automatically.





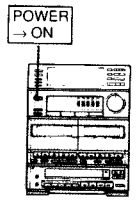
Timer-activated Operation

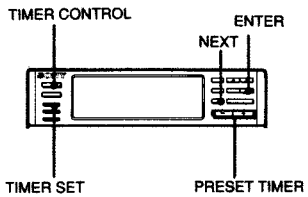
To change the time and program

1 Press TIMER SET.
The timer-on hour blinks.
2 Press NEXT until the item to be changed blinks.
3 Press PRESET/TIMER + or – until the desired time or source appears.
4 Press NEXT until TIMER ON time appears.
The display, then, shows TIMER OFF time, and returns to the previous display.

When you do not want to operate the timer program

Press TIMER CONTROL to turn off TIMER. To reactivate the timer, press TIMER CONTROL to display TIMER.





When the power is already on at the preset time
The function mode will be automatically changed to the preset one, even if you are playing a program of another function. However, when you have preset the TUNER REC mode, recording will not start even though the station is tuned in. Be sure to turn the power off before the preset time for tuner recording.

Important

On the recording side of a tape during timer recording
Playback or recording always starts from the front side (the side facing you).
To record on the other side, be sure to turn over the tape, otherwise, recording on the front side will be erased.

Sleep Timer Operation

By setting the sleep timer, the system power can be turned off after the preset duration.

Sleep Timer Setting

1 Play the desired program source.

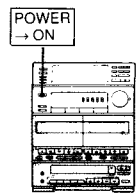
2 Press SLEEP to select the desired duration in minute.
As you press SLEEP, the indication changes as follows:
90 → 80 → ... 10 → --

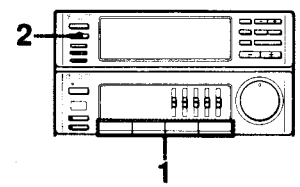
To turn off the system before the time of the sleep timer comes

Press POWER.

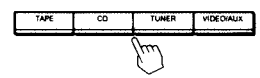
To check the remaining time of the sleep timer

Press SLEEP once, and the remaining time appears.
The display returns to the previous indication in several seconds.





1



2

Microphone Mixing

Mixing Operation A

1 Connect the microphone to MIX MIC jack.

2 Select program source with the function buttons and play it.

3 Sing or speak into the microphone.

4 Adjust the total volume.

When the mixing is over

Be sure to disconnect the microphone.

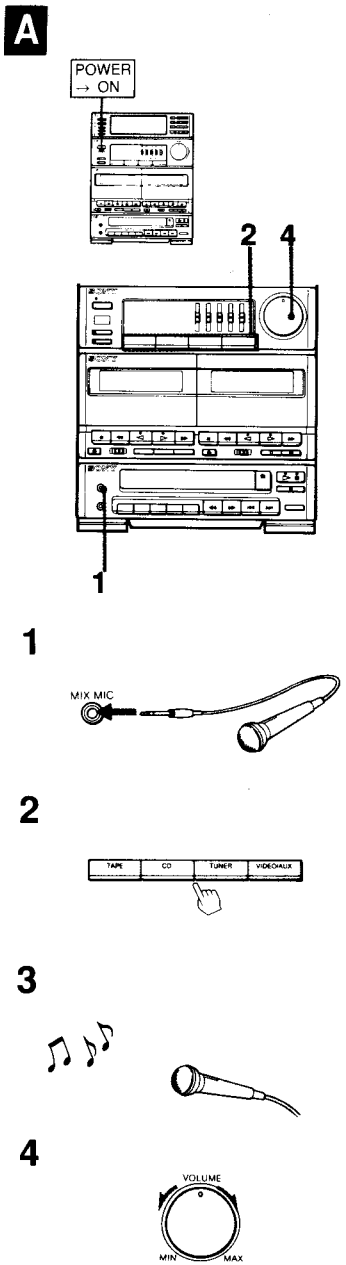
Recording the Sound Mixed with a Source

1 Mix the sound as described above.
2 Insert a tape in deck B.
3 Set deck B to the record mode.

Recording from a Microphone Only

1 Press CD.
2 Press ■ of the CD player.
3 Insert a tape in deck B.
4 While keeping REC pressed, press ▷ or ◁ on deck B.
Recording starts.
5 Speak or sing into the microphone.

To stop howling (acoustic feedback)
Placing the microphone too close to the speakers may cause howling. Move the microphone away from the speakers or change the direction it faces.

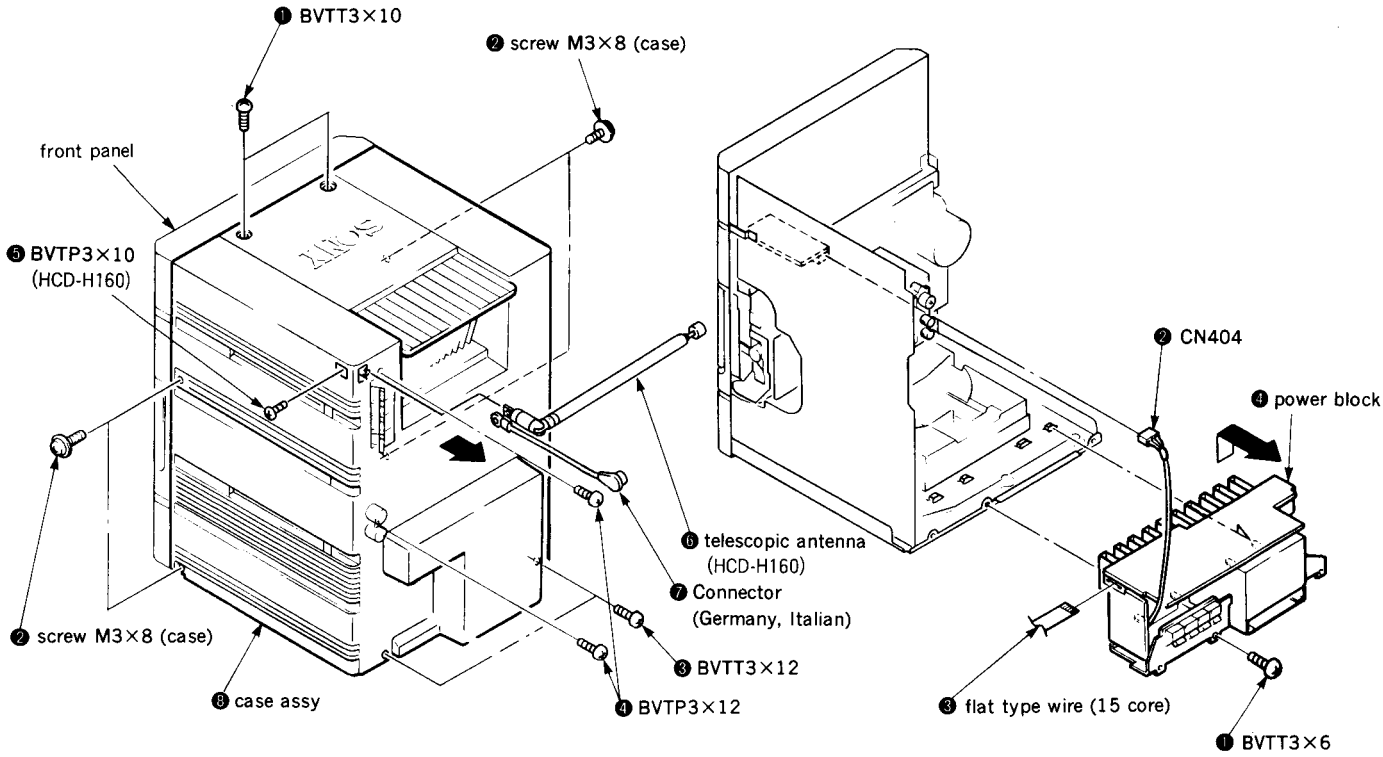


SECTION 3
DISASSEMBLY

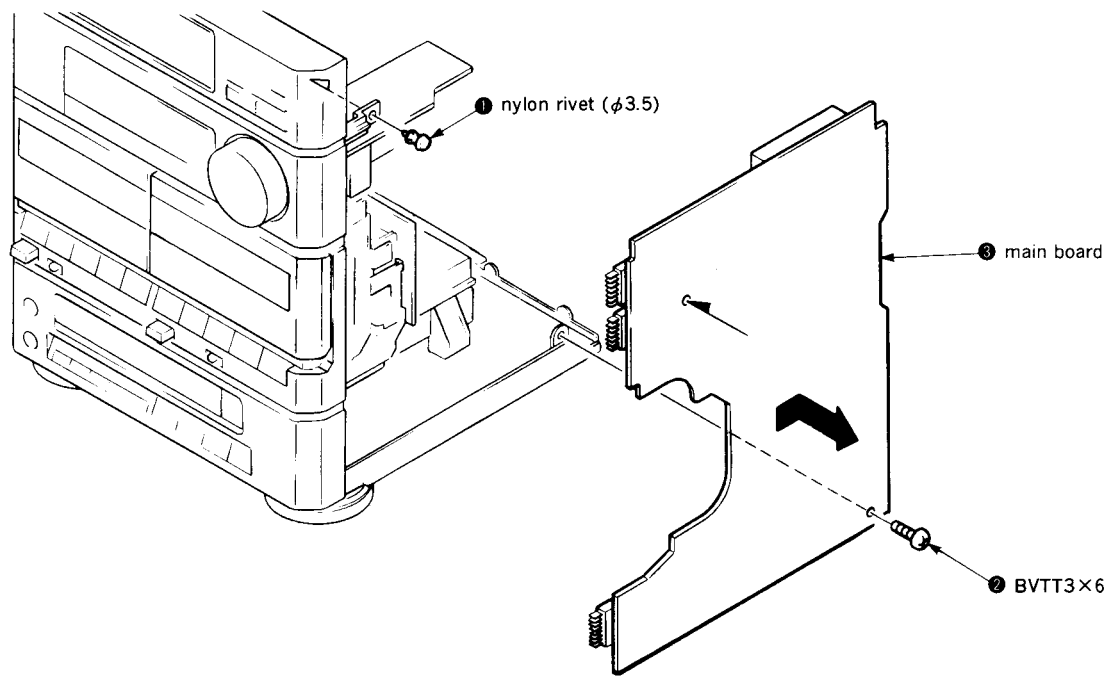
Note: Follow the disassembly procedure in the numerical order given.

3-1. CASE

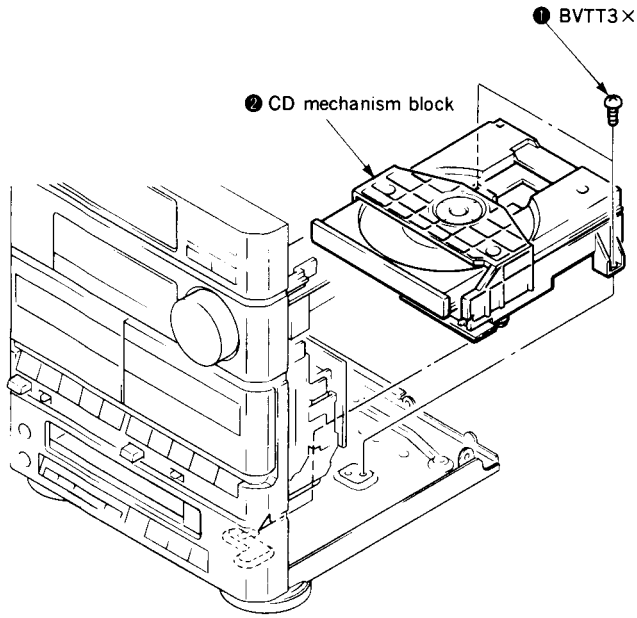
3-2. POWER BLOCK



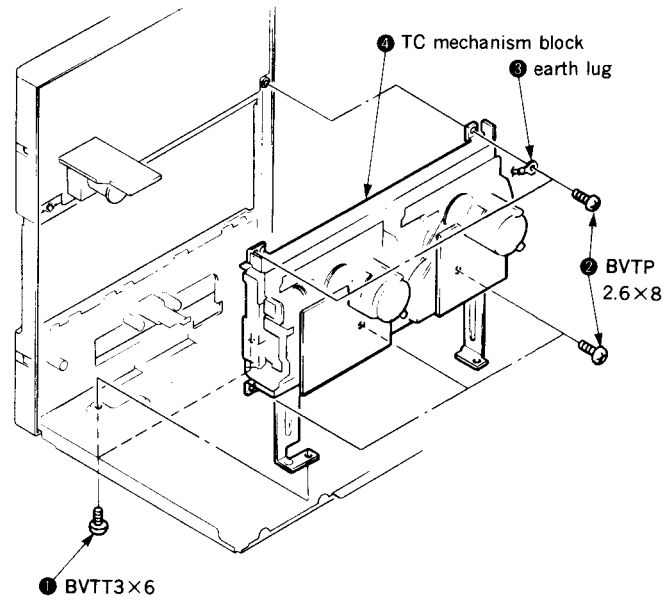
3-3. MAIN BOARD



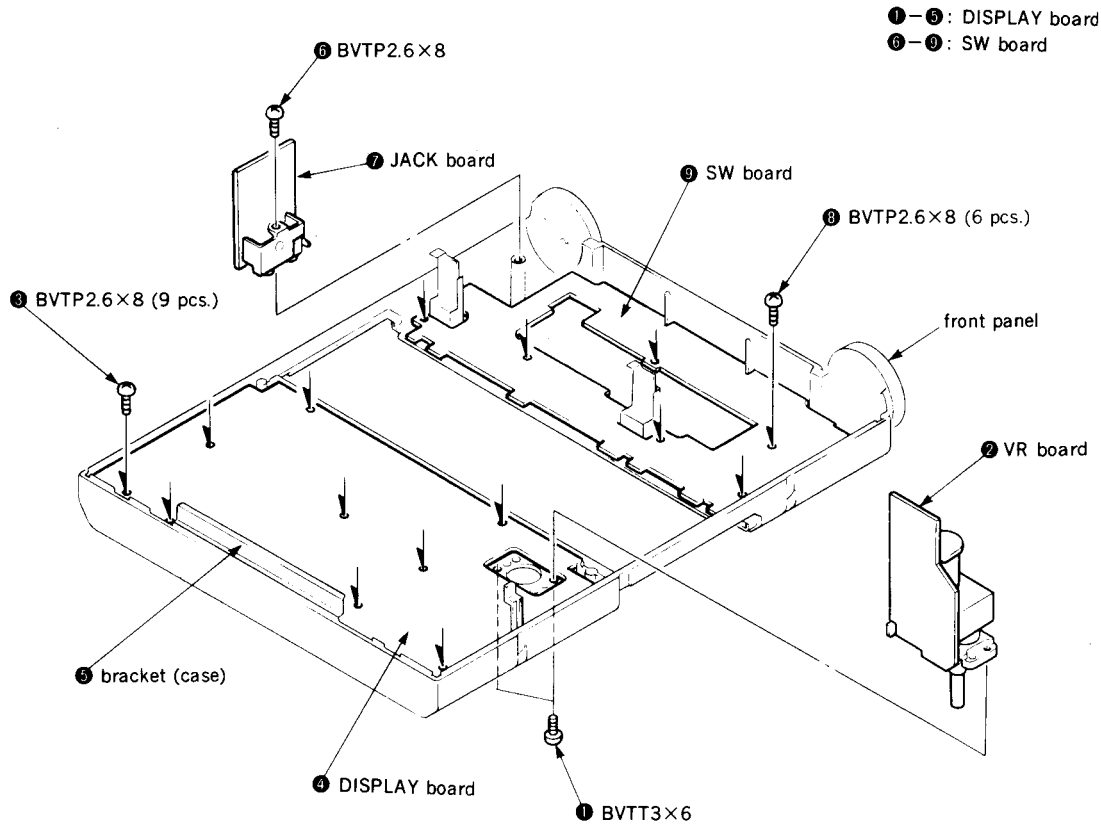
3-4. CD MECHANISM BLOCK



3-5. TC MECHANISM BLOCK

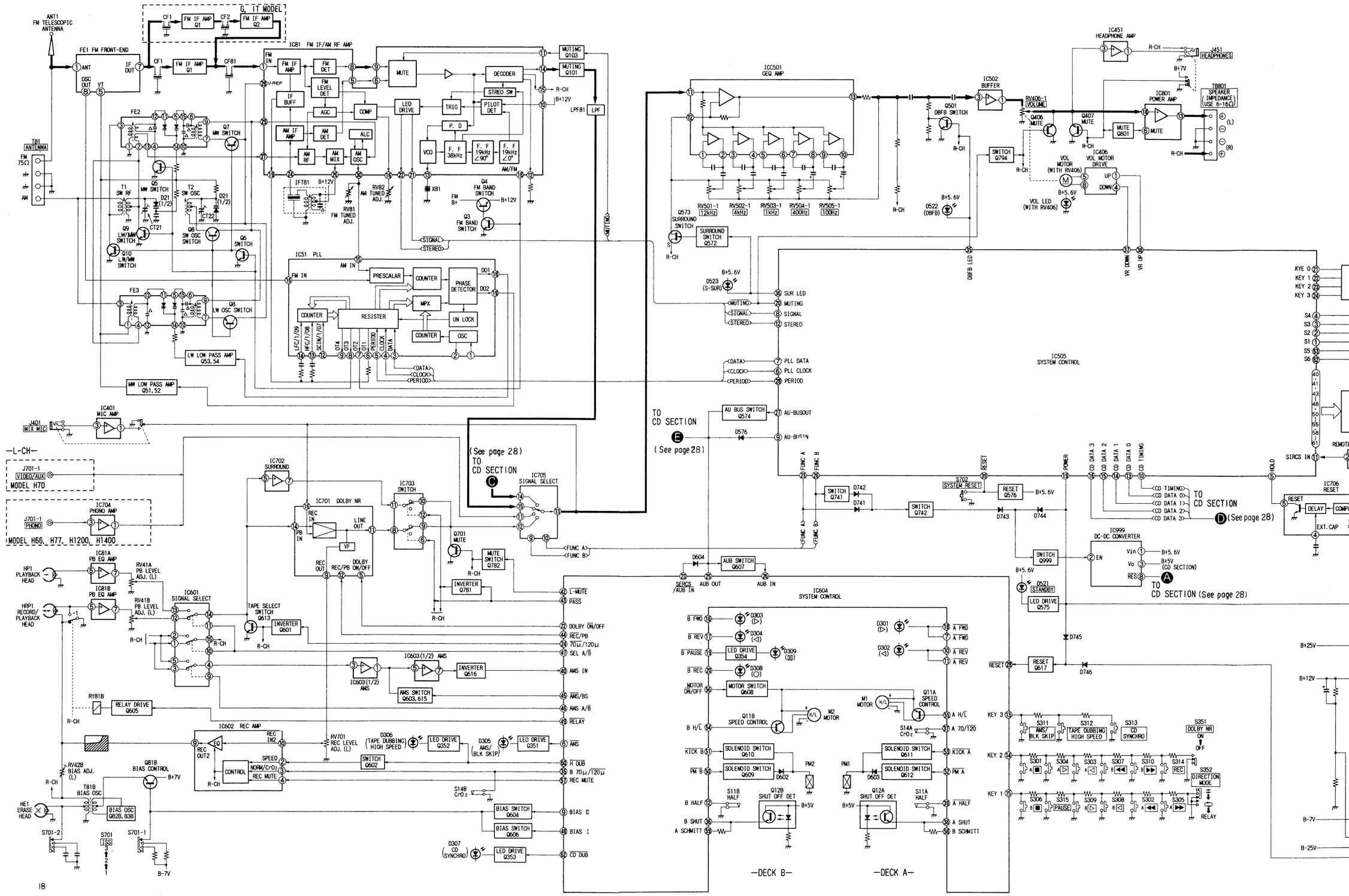


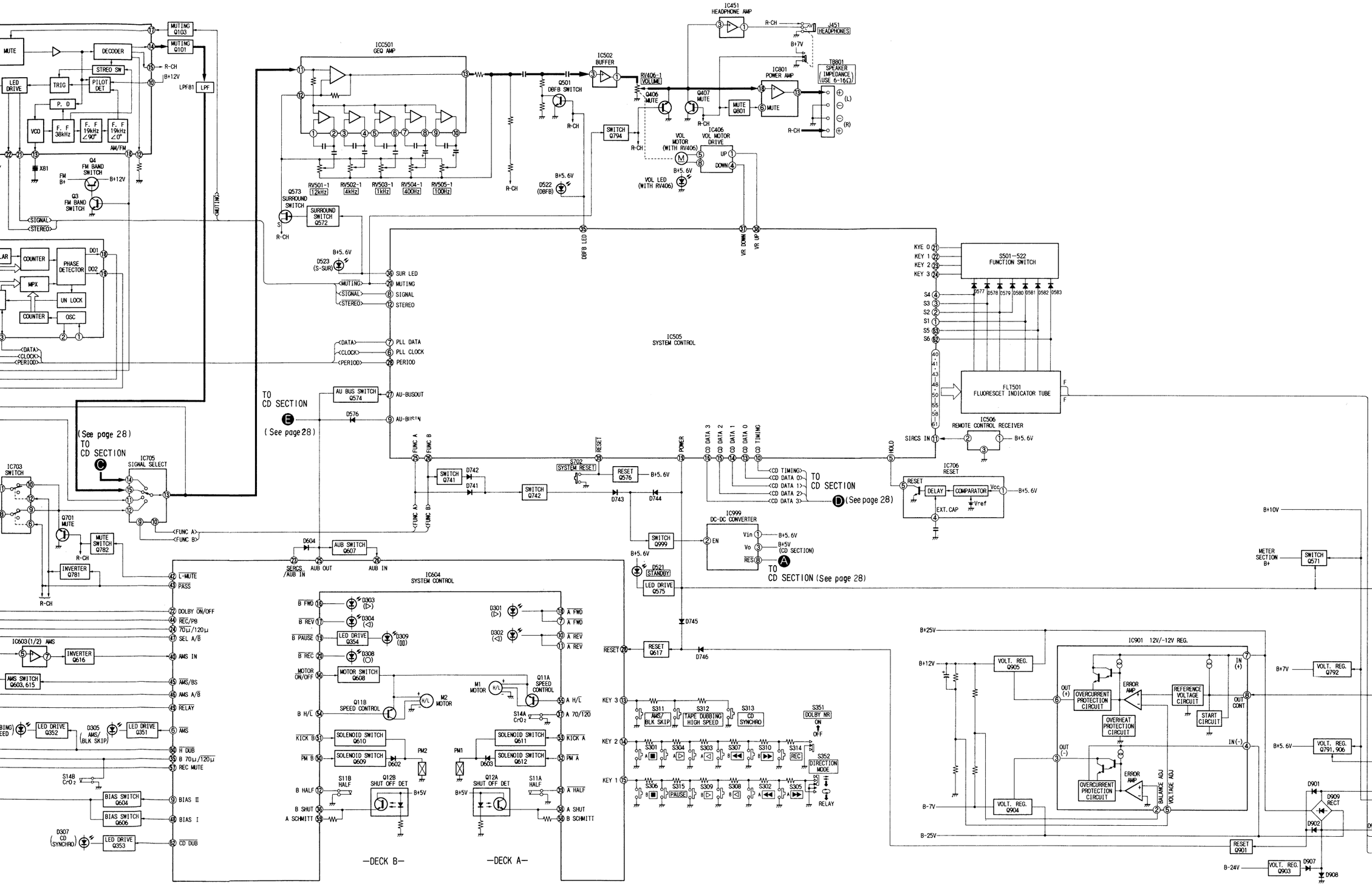
3-6. DISPLAY/SW/JACK/VR BOARD



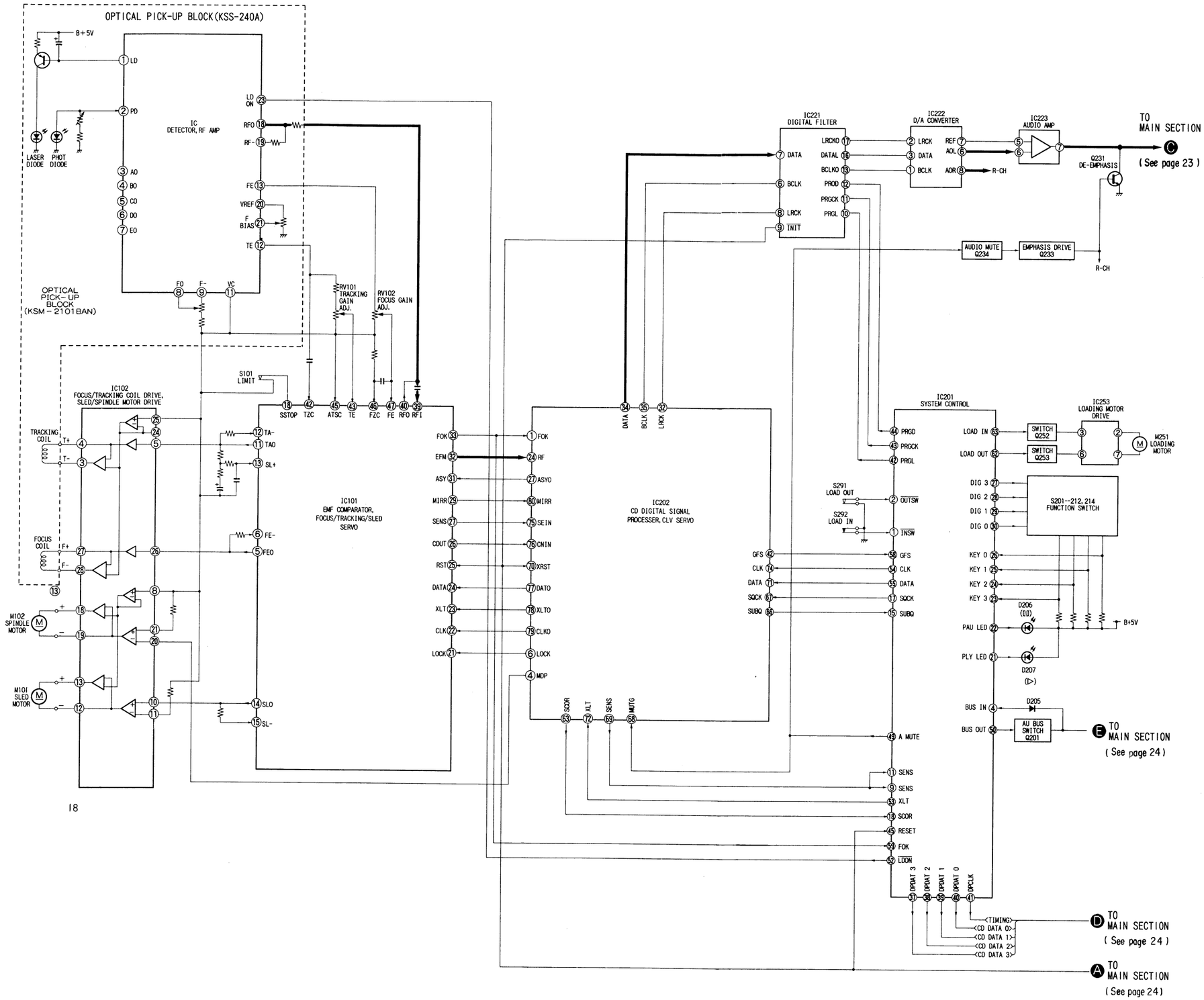
SECTION 4
BLOCK DIAGRAM

4-1. MAIN BLOCK




IC451
HEADPHONE AMP
J451
HEADPHONES
R-CH
B+7V
TB801
SPEAKER
(IMPEDANCE)
USE 6-16Ω)
IC801
POWER AMP
(L)
(R)
MUTING
Q103
MUTING
Q101
DECODER
STREO SW
R-CH
B+12V
LPFB1
LPF
MUTE
LED
DRIVE
TRIG
PILOT
DET
P. D
VCO
F. F
38kHz
F. F
19kHz
∠90°
F. F
19kHz
∠0°
AM/FM
X81
Q4
FM BAND
SWITCH
FM
B+
B+12V
Q3
FM BAND
SWITCH
SIGNAL
STEREO
MUTING
IC501
GEQ AMP
IC502
BUFFER
Q501
DBFB SWITCH
RV406-1
VOLUME
Q406
MUTE
Q407
MUTE
MUTE
Q801
SWITCH
Q794
IC406
VOL MOTOR
DRIVE
VOL
MOTOR
(WITH RV406)
VOL LED
(WITH RV406)
UP
DOWN
B+5.6V
RV501-1
12kHz
RV502-1
4kHz
RV503-1
1kHz
RV504-1
400Hz
RV505-1
100Hz
Q573
SURROUND
SWITCH
SURROUND
SWITCH
Q572
D522
(DBFB)
DBFB LED
VR DOWN
VR UP
D523
(S-SUR)
SUR LED
MUTING
SIGNAL
STEREO
COUNTER
PHASE
DETECTOR
DO1
DO2
MPX
UN LOCK
COUNTER
OSC
DATA
CLOCK
PERIOD
PLL DATA
PLL CLOCK
PERIOD
IC505
SYSTEM CONTROL
KYE 0
KEY 1
KEY 2
KEY 3
S501—522
FUNCTION SWITCH
D577 D578 D579 D580 D581 D582 D583
S4
S3
S2
S1
S5
S6
FLT501
FLUORESCET INDICATOR TUBE
IC506
REMOTE CONTROL RECEIVER
SIRCS IN
B+5.6V
TO
CD SECTION
(See page28)
(See page 28)
TO
CD SECTION
IC705
SIGNAL SELECT
AU BUS SWITCH
Q574
AU-BUSOUT
AU-BUSIN
D576
FUNC A
FUNC B
SWITCH
Q741
SWITCH
Q742
D742
D741
S702
SYSTEM RESET
RESET
Q576
D743
D744
RESET
POWER
CD DATA 3
CD DATA 2
CD DATA 1
CD DATA 0
CD TIMING
HOLD
IC706
RESET
DELAY
COMPARATOR
Vcc
Vref
EXT. CAP
IC999
DC-DC CONVERTER
EN
Vin
Vo
RES
B+5V
(CD SECTION)
SWITCH
Q999
D521
STANDBY
LED DRIVE
Q575
D745
D746
RESET
Q617
TO
CD SECTION (See page 28)
IC703
SWITCH
Q701
MUTE
MUTE
SWITCH
Q782
INVERTER
Q781
R-CH
AUB SWITCH
Q607
D604
SERCS
/AUB IN
AUB OUT
AUB IN
IC604
SYSTEM CONTROL
L-MUTE
PASS
DOLBY ON/OFF
REC/PB
70μ/120μ
SEL A/B
AMS IN
AMS/BS
AMS A/B
RELAY
AMS
H DUB
B 70μ/120μ
REC MUTE
BIAS II
BIAS I
CD DUB
IC603(1/2) AMS
INVERTER
Q616
AMS SWITCH
Q603, 615
LED DRIVE
Q352
LED DRIVE
Q351
D305
AMS/
(BLK SKIP)
S14B
CrO2
BIAS SWITCH
Q604
BIAS SWITCH
Q606
D307
CD
SYNCHRO
LED DRIVE
Q353
B FWD
B REV
B PAUSE
B REC
MOTOR
ON/OFF
B H/L
KICK B
PM B
B HALF
B SHUT
A SCHMITT
D303
D304
D309
D308
LED DRIVE
Q354
MOTOR SWITCH
Q608
Q11B
SPEED CONTROL
M2
MOTOR
SOLENOID SWITCH
Q610
SOLENOID SWITCH
Q609
D602
PM2
S11B
HALF
Q12B
SHUT OFF DET
B+5V
—DECK B—
D301
D302
A FWD
A REV
M1
MOTOR
Q11A
SPEED
CONTROL
A H/L
S14A
CrO2
A 70/120
KICK A
PM A
A HALF
A SHUT
B SCHMITT
SOLENOID SWITCH
Q611
SOLENOID SWITCH
Q612
D603
PM1
Q12A
SHUT OFF DET
S11A
HALF
B+5V
—DECK A—
KEY 3
KEY 2
KEY 1
S311
AMS/
BLK SKIP
S312
TAPE DUBBING
HIGH SPEED
S313
CD
SYNCHRO
S351
DOLBY NR
ON
OFF
S301
S304
S303
S307
S310
S314
REC
S352
DIRECTION
MODE
RELAY
S306
S315
PAUSE
S309
S308
S302
S305
IC901 12V/-12V REG.
B+25V
B+12V
B-7V
B-25V
VOLT. REG.
Q905
VOLT. REG.
Q904
OVERCURRENT
PROTECTION
CIRCUIT
OVERHEAT
PROTECTION
CIRCUIT
ERROR
AMP
REFERENCE
VOLTAGE
CIRCUIT
START
CIRCUIT
OUT
CONT
IN
VOLTAGE ADJ
BALANCE ADJ
B+10V
METER
SECTION
B+
SWITCH
Q571
B+7V
VOLT. REG.
Q792
B+5.6V
VOLT. REG.
Q791, 906
POWER SWITCH
Q908
POWER SWITCH
Q907
T901
POWER
D909
RECT
D901
D902
D903
D904
CN901
~AC IN
RESET
Q901
B-24V
VOLT. REG.
Q903
D907
D908

4-2. CD BLOCK


OPTICAL PICK-UP BLOCK(KSS-240A)
B+5V
LD
PD
LASER DIODE
PHOT DIODE
AO
BO
CO
DO
EO
IC DETECTOR, RF AMP
LD ON
RFO
RF-
FE
VREF
F BIAS
TE
FO
F-
VC
OPTICAL PICK-UP BLOCK (KSM-2101BAN)
RV101 TRACKING GAIN ADJ.
RV102 FOCUS GAIN ADJ.
S101 LIMIT
IC102 FOCUS/TRACKING COIL DRIVE, SLED/SPINDLE MOTOR DRIVE
TRACKING COIL
FOCUS COIL
M102 SPINDLE MOTOR
M101 SLED MOTOR
TA-
TAO
SL+
FE-
FEO
SLO
SL-
SSTOP
TZC
ATSC
TE
FZC
FE
RFO
RFI
IC101 EMF COMPARATOR, FOCUS/TRACKING/SLED SERVO
FOK
EFM
ASY
MIRR
SENS
COUT
RST
DATA
XLT
CLK
LOCK
RF
ASYO
MIRR
SEIN
CNIN
XRST
DATO
XLTO
CLKO
LOCK
MDP
IC202 CD DIGITAL SIGNAL PROCESSER, CLV SERVO
DATA
BCLK
LRCK
IC221 DIGITAL FILTER
LRCKO
DATAL
BCLKO
PRDO
PRGCK
PRGL
INIT
IC222 D/A CONVERTER
LRCK
DATA
BCLK
REF
AOL
AOR
R-CH
IC223 AUDIO AMP
Q231 DE-EMPHASIS
TO MAIN SECTION
(See page 23)
AUDIO MUTE Q234
EMPHASIS DRIVE Q233
R-CH
IC201 SYSTEM CONTROL
PRGD
PRGCK
PRGL
S291 LOAD OUT
S292 LOAD IN
OUTSW
INSW
GFS
CLK
DATA
SQCK
SUBQ
A MUTE
SENS
SENS
XLT
SCOR
RESET
FOK
LDON
DPDAT 3
DPDAT 2
DPDAT 1
DPDAT 0
DPCLK
IC253 LOADING MOTOR DRIVE
LOAD IN
LOAD OUT
SWITCH Q252
SWITCH Q253
M251 LOADING MOTOR
DIG 3
DIG 2
DIG 1
DIG 0
S201-212, 214 FUNCTION SWITCH
KEY 0
KEY 1
KEY 2
KEY 3
D206 (OD)
PAU LED
PLY LED
D207 (▷)
B+5V
BUS IN
BUS OUT
D205
AU BUS SWITCH Q201
TO MAIN SECTION
(See page 24)
TO MAIN SECTION
(See page 24)
TO MAIN SECTION
(See page 24)
<TIMING>
<CD DATA 0>
<CD DATA 1>
<CD DATA 2>
<CD DATA 3>

SECTION 5
MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured alcohol-moistened swab:
   record/playback head — pinch roller
   erase head — rubber belt
   capstan — idler
2. Demagnetize the record/playback head with a head demagnetizer.
   (Head demagnetizer do not approach for the erase head.)
3. Do not use a magnetized screwdriver for the adjustment.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustment should be performed with the rated power supply voltage unless otherwise noted.

• Torque Measurement

Torque	Torque meter	Meter reading
Forward	CQ-102C	30 to 60g•cm (0.42 to 0.83oz•inch)
Forward back tension	CQ-102C	1 to 5g•cm (0.014 to 0.069oz•inch)
Reverse	CQ-102RB	30 to 60g•cm (0.42 to 0.83oz•inch)
Reverse back tension	CQ-102RB	1 to 5g•cm (0.014 to 0.069oz•inch)
Forward, Reverse	CQ-201B	100 to 170g•cm (1.39 to 2.36oz•inch)

SECTION 6
ELECTRICAL ADJUSTMENTS

DECK SECTION

1. The adjustment should be performed in the publication. (Be sure to make playback adjustment at first.)
2. The adjustment and measurement should be performed for both L-CH and R-CH.
   • Switch position
   DOLBY NR switch: OFF

• Test Tape

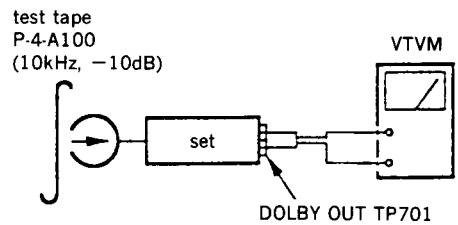
Tape	Contents	Use
P-4-A100	10kHz, −10dB	Head Azimuth Adjustment
P-4-L300	315Hz, 0dB	Level Adjustment
WS-48A	3kHz, 0dB	Tape Speed Adjustment
CS-122	—	Recording bias and Recording level Adjustment

Record/Playback Head Azimuth Adjustment

DECK A **DECK B**

Procedure:

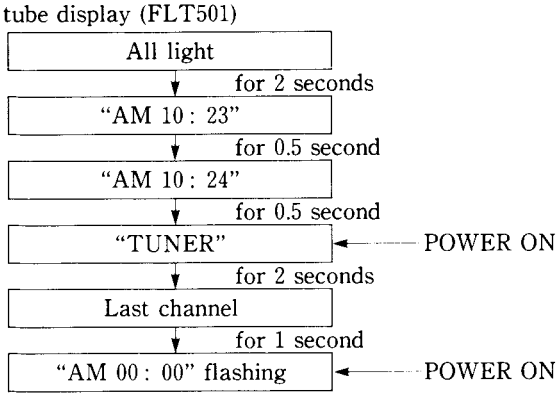
1. Forward Playback Mode



• Timer Test Mode

When BAND, SHIFT and PRESET/TIMER+buttons are pressed at the same time the following time test operation is performed. After the operation, it becoms in the system reset mode. Take care that the frequency preset to the tuner is initialized.

1) POWER OFF
2) Timer set
   Clock — AM10: 23
   Timer ON — AM10: 24
   Timer OFF — AM10: 31
   Function — TUNER
3) FL tube display (FLT501)



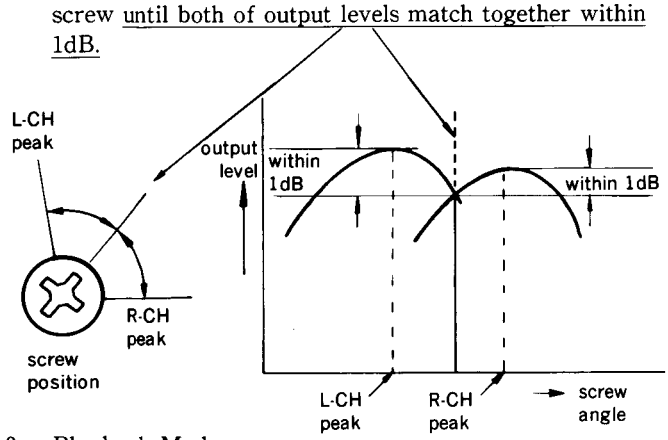
4) Finish

• Preset Frequency in Restting

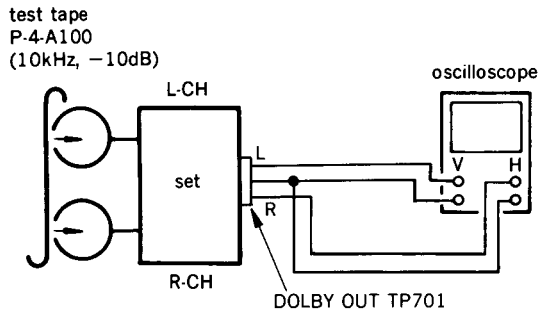
When pressing the system reset button (S702) of the rear side of the unit, the following frequency is preset to the tuner part. When the system reset is performed in repairing, be sure to return to the frequency set by the user.

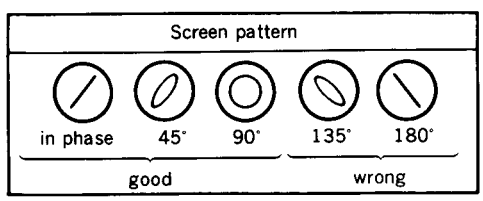
FM		no mark: AEP, Germany, UK model ( ): Italian model			
		MW		LW	
A1	87.5MHz	A6	531(522)kHz	B1	153(144)kHz
A2	88.0MHz	A7	603(522)kHz	B2	162kHz
A3	98.0MHz	A8	999(522)kHz	B3	216kHz
A4	106.0MHz	A9	1040(522)kHz	B4	270kHz
A5	108.0MHz	A0	1602(1611)kHz	B5	279(288)kHz

2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 1dB.



3. Playback Mode

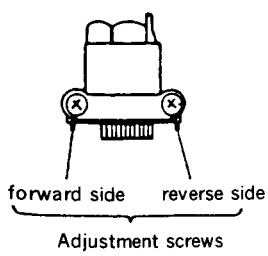


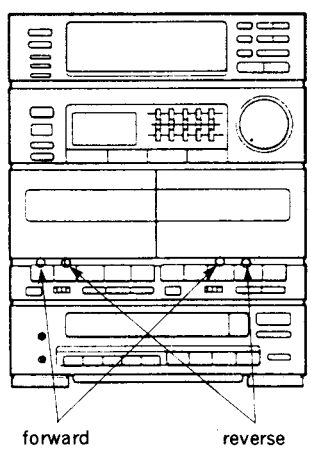


4. Change the reverse playback mode and repeat the steps 1 to 3.
5. After the adjustment, lock the adjustment screw with suitable locking compound.

Adjustment Location :

—record/playback head (deck A and B)



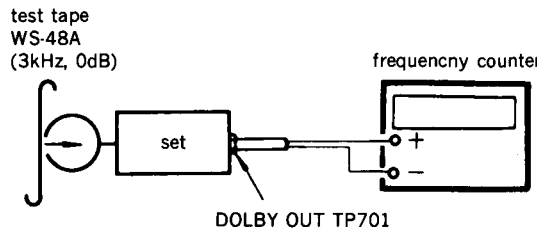


Tape Speed Adjustment DECK A DECK B

Procedure :

- Perform high speed adjustment before normal speed adjustment.

Mode : playback



Speed	Test pin (TP601)	Deck	Adjustment	Frequcency counter
※High	short	A	M1 (H)	5,960 to 6,040Hz
		B	M2 (H)	
Normal	open	A	M1 (L)	2,980 to 3,020Hz
		B	M2 (L)	

※ Continue to press HIGH SPEED DUBBING switch (S312) in playback mode: High speed playback.

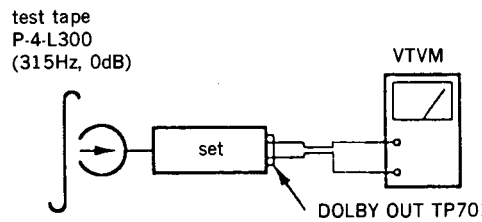
Frequency difference between the begining and the end of the tape should be within ±1.5%.

Adjustment Location : motors (M1 (deck A), M2 (deck B))

Playback Level Adjustment DECK A DECK B

Procedure :

Mode : playback



Deck A is RV41A (L-CH) and RV61A (R-CH), deck B is RV41B (L-CH) and RV61B (R-CH) so that adjustment within adjustment level as follows.

Adjustment Level :

LINE OUT level : −6±0.5dB (0.37 to 0.41V)

Level Difference between Channels : within 1dB

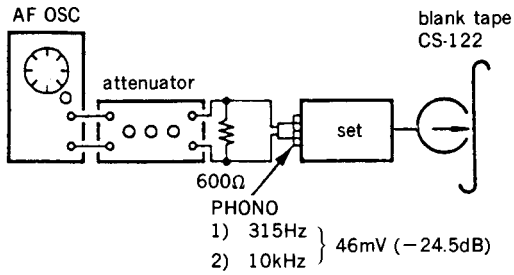
Confirm the DOLBY OUT level does not change in playback mode while changing the mode from playback to stop several times.

Adjustment Location : MD-A and MD-B boards

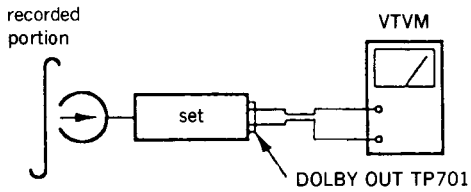
Record Bias Adjustment DECK B

Procedure:

1. record mode



2. playback mode



Confirm playback the signal recorded in step 1 become adjustment level as follows.
If these levels do not adjustment level, adjustment the RV42B (deck A) and RV62B (deck B) to repeat step 1 and 2.

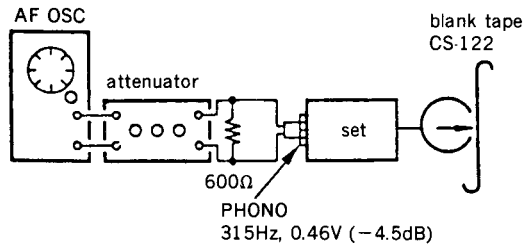
Adjustment level: Playback output of 315Hz to playback output of 10kHz: −0.5dB to 0.5dB

Adjustment Location: MD-B board

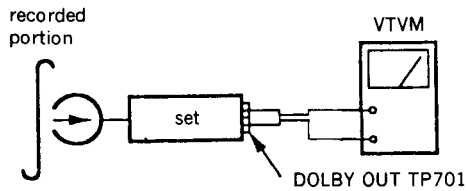
Record Level Adjustment DECK B

Procedure:

1. record mode



2. playback mode



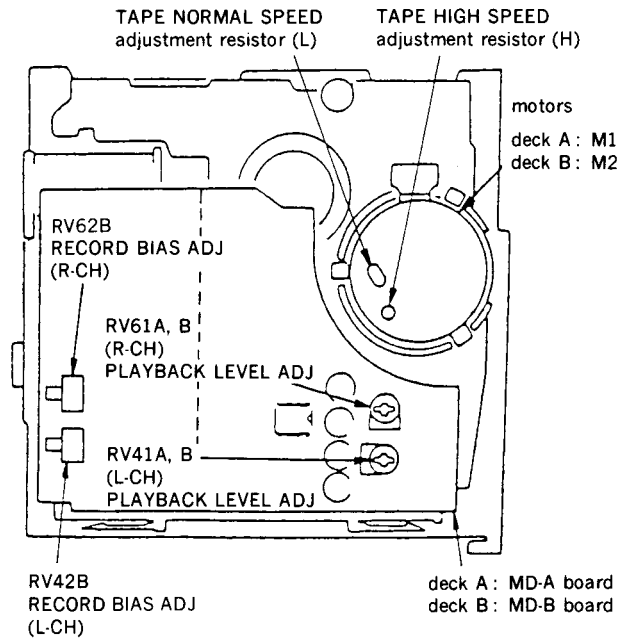
Confirm playback the signal recorded in step become adjustment level as follows.
If these levels do not adjustment level, adjustment the RV701 (deck A) and RV751 (deck B) to repeat step 1 and 2.

Adjustment Level:
LINE OUT level: −6±0.5dB (0.37 to 0.41V)

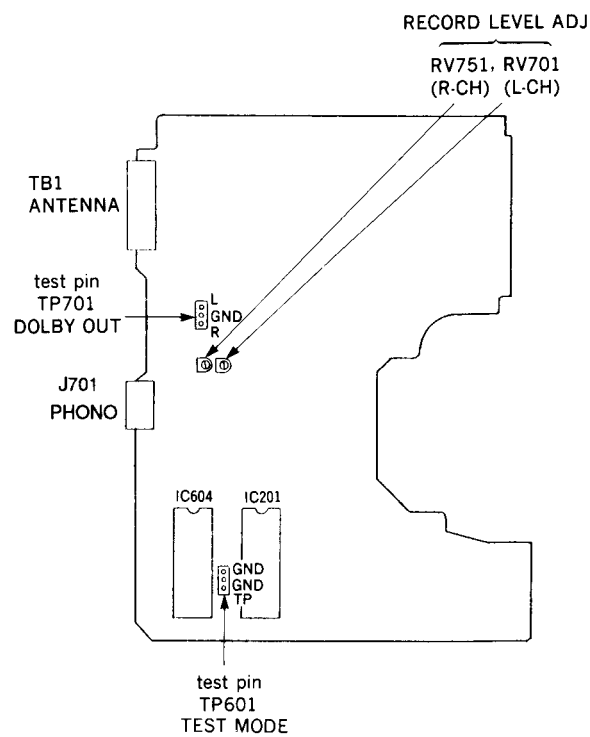
Adjustment Location: main board

Adjustment Location:

mechanism deck—rear side—



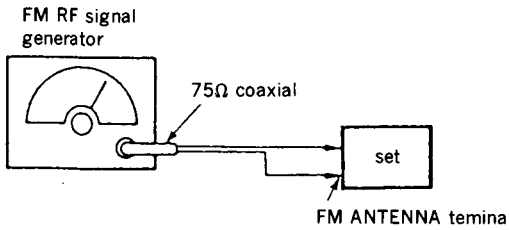
main board —component side—



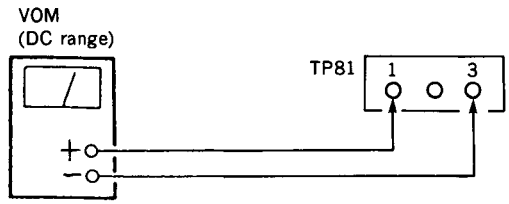
TUNER SECTION

FM SECTION ADJUSTMENTS

Setting :



Carrier frequency : 98MHz
Modulation : 1kHz, 40kHz deviation
Output level : as low as possible



FM Discriminator Alignment (NULL Check)

Band : FM

Procedure :

1. Supply a 1mV (60dBμ) 98MHz signal from the ANTENNA terminal.
2. Tune the to 98MHz.
3. Adjust IFT82 for 0V reading on the VOM.

Note : FM tuned indication lighting level adjustment should be made after FM discriminator alignment.

FM Tuned Indication Lighting Level Adjustment

Band : FM

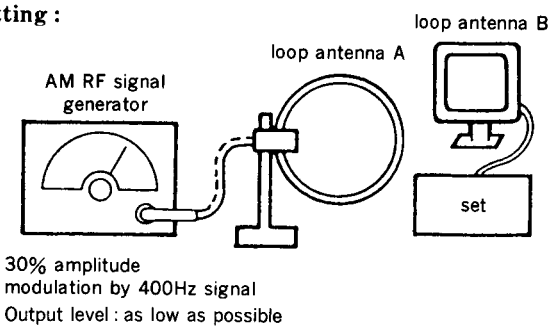
Procedure :

1. Supply a 32μV (30dBμ) 98 MHz signal from the ANTENNA terminal.
2. Tune the set to 98MHz.
3. Adjust RV81 so that the TUNED light up.

Adjustment Location : main board

AM SECTION ADJUSTMENTS

Setting :



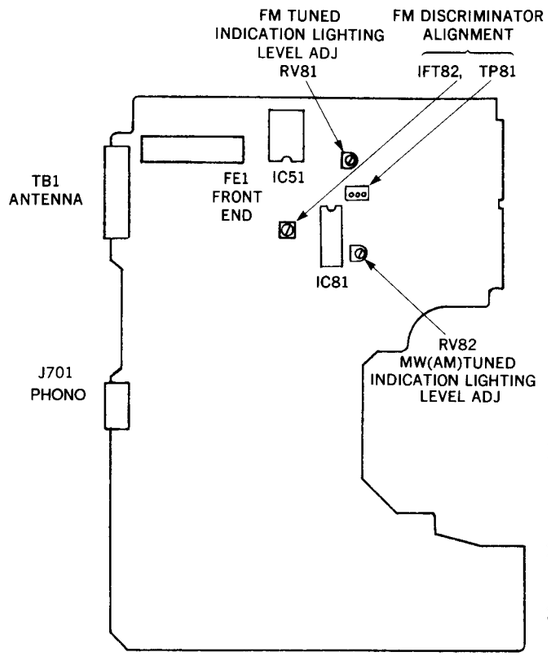
MW Tuned Indication Lighting Level Adjustment

Band : MW

Procedure :

1. Set loop antenna A so that the loop antenna, B input level becomes 0.45mV (53dBμ)
2. Tune the set to 1,404kHz.
3. Adjust the RV82 so that the TUNED light up.

Adjustment Location : main board —component side—

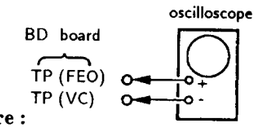


CD SECTION

Note :

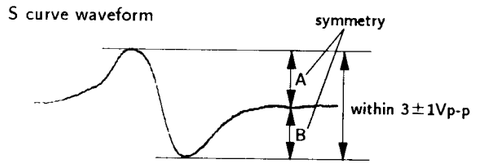
1. CD Block basically constructed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use the oscilloscope with more than 10MΩ impedance.
4. Clean an object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.

S Curve Check



Procedure :

1. Connect oscilloscope to test point TP (FEO) on BD board.
2. Connect between test point TP (FES) and TP (VC) by lead wire.
3. Turned Power switch on and actuate the focus serch. (actuate the focus serch when disc table is moving in and out.)
4. Check the oscilloscope waveform (S curve) is symmetrical between A and B. And confirm peak to peak level within 3±1Vp-p.

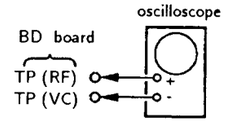


5. After check, remove the lead wire connected in step 2.

Note : • Try to mesure several times to make sure that the ratio of A : B or B : A is more than 10 : 7.

• Take sweep time as long as possible and light up the brightness to obtain best waveform.

RF Level Check

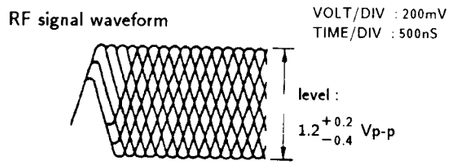


Procedure :

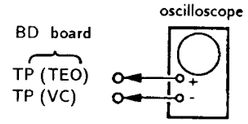
1. Connect oscilloscope to test point TP (RF) on BD board.
2. Turn Power switch on.
3. Put disc (YEDS-18) in and playback.
4. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.

Note :

Clear RF signal waveform means that the shape "◇" can be clearly distinguished at the center of the waveform.

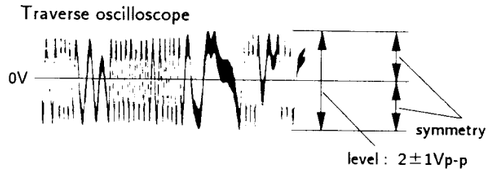


E-F Balance Check



Procedure :

1. Connect test point TP (ADJ) to ground and TP (TES) to TP (VC) with lead wire.
2. Connect oscilloscope to test point TP (TEO) on BD board.
3. Turn Power switch on.
4. Put disc (YEDS-18) in and playback.
5. Confirm that the osilloscope waveform is symmetrical on the top and bottom in relation to 0V, and check this level.

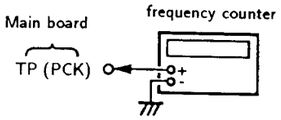


6. Remove the lead wire connected in step 1.

RF PLL Free-run Frequency Check

Procedure :

1. Connect frequency counter to test point (PCK) with lead wire.

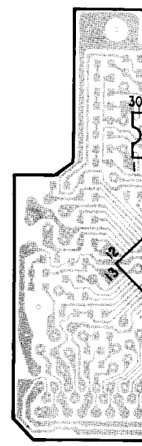


2. Turn Power switch on.
3. Confirm that reading on frequency counter is 4. 3218MHz.

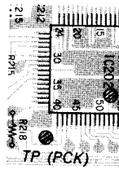
Focus/Tracking Gain

This gain has a margin, so even if it is slightly off. There is no problem.
Therefore, do not perform, this adjustment.
Please note that it should be fixed to mechanical center position when you moved and do not know original position.

Adjustment Loca
[BD board]



[Main



t point (PCK)

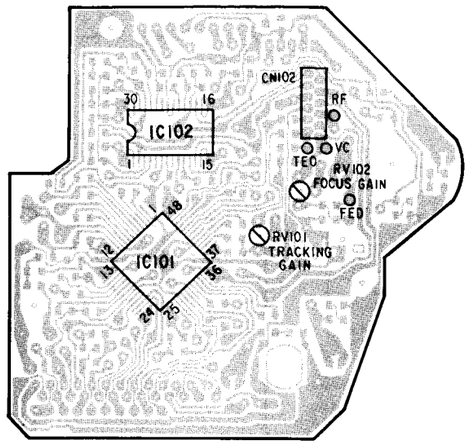
ncy counter

counter is

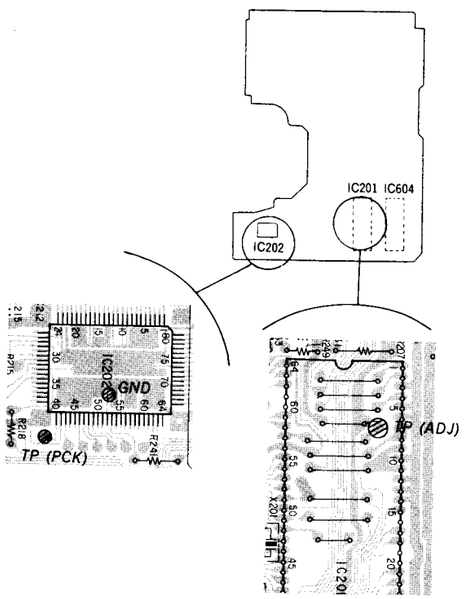
is slightly off.

ent.
echanical cen-
ot know

Adjustment Locations:
[BD board]



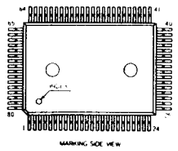
[Main board]



SECTION 7
DIAGRAMS

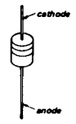
7-1. SEMICONDUCTOR LEAD LAYOUTS

CXA1372Q
CXD2500Q

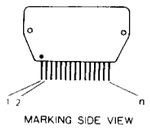


GP-2S09-C

HZS6B1L
HZS7B3L
UZ-3.0BS
UZ-4.7BSC
UZL-24L
UZL-9H1
1SS120
1SS202-1
11ES2

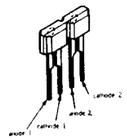


STK-4132MK2



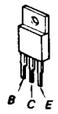
2SB1013-4
2SC3112-B
2SD1616A-K

KV1236-Z



DTA114ES
DTA144ES
DTC114ES
DTC144ES
2SC2603-EF
2SC2724-CD
2SC3622A-LK

2SB1370-EF
2SC2001-LK
2SD1761-EF

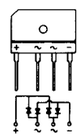


UZP-5.1BC

2SK246-GR3
2SK246-Y

DTC114TS
2SA1175-HFE

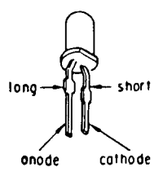
RBA-402



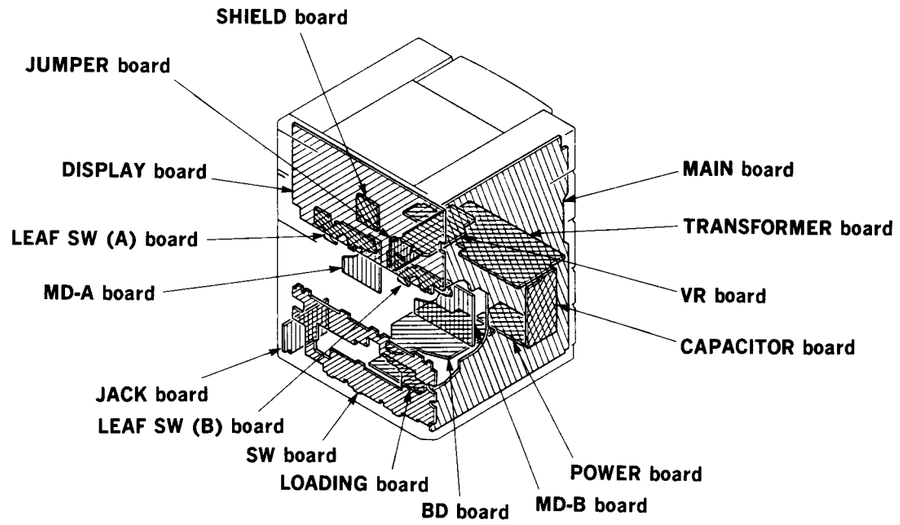
DTC144EK

GL-1EG112-CD
GL-1HD112-DE
GL-1HY112-CD

SEL1210RM-LC05-CD
SEL1910DM-LC05-CD



7-2. CIRCUIT BOARDS LOCATION



7-3. PRINTED WIRING BOARDS—Tuner/Deck/CD Section—

• Refer to page 35 for Semicondnctor Lead Layouts.
• Refer to page 36 for Circuit Boards Location.

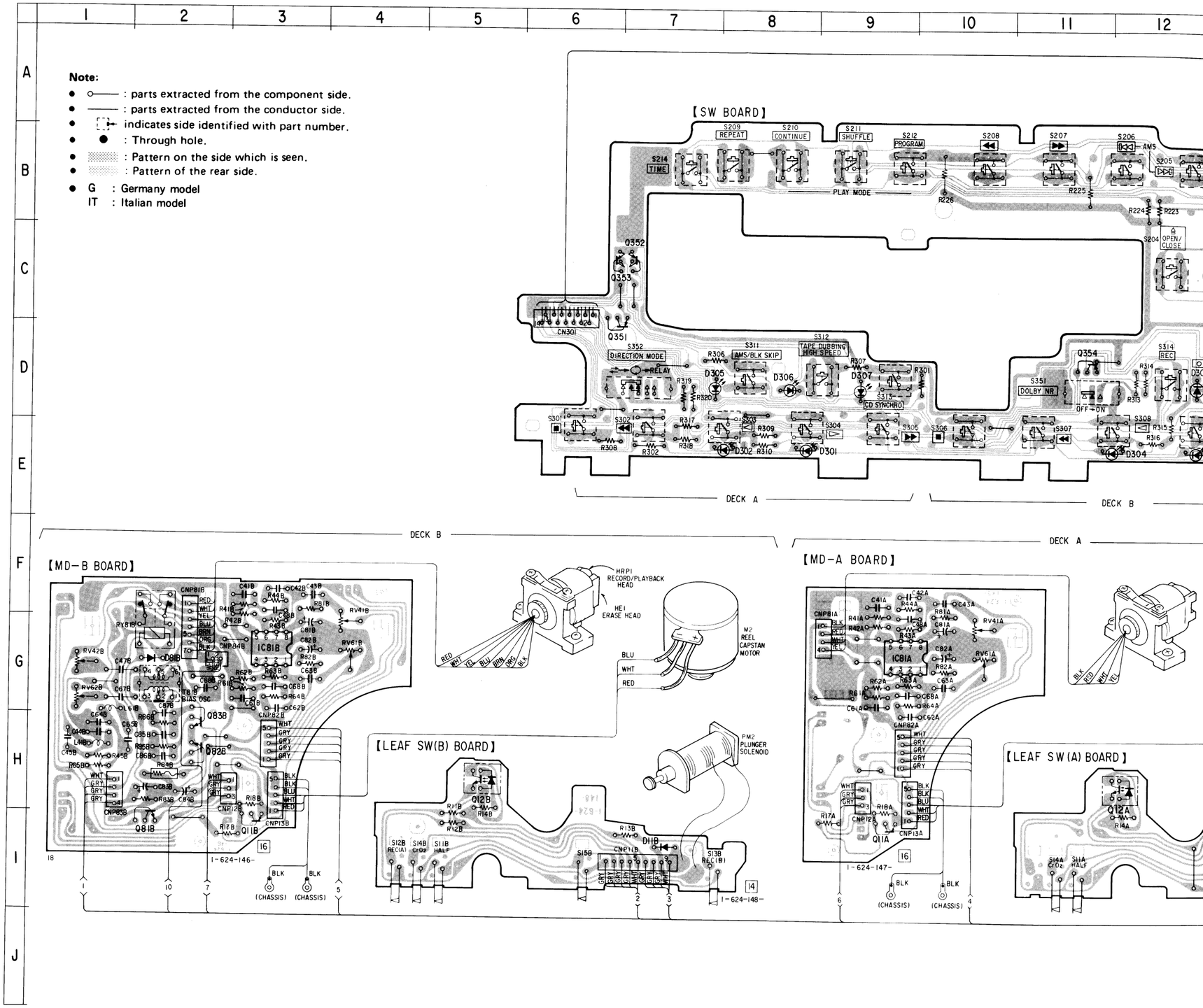
• Semiconductor Location

Ref. No.	Location	Ref. No.	Location	Ref. No.	Location
D11A	I-13	IC602	C-21	Q353	C-6
D11B	I-7	IC603	E-21	Q354	D-11
D81B	G-2	IC604	C-25	Q601	E-22
D201	E-24	IC701	C-20	Q602	B-22
D205	D-23	IC702	D-20	Q603	E-22
D206	C-13	IC703	E-20	Q604	B-23
D207	C-13	IC704	B-20	Q605	C-23
D301	E-8	IC705	F-20	Q606	B-23
D302	E-8	IC706	I-18	Q607	B-25
D303	E-12	IC999	H-24	Q608	D-22
D304	E-12			Q609	D-22
D305	D-7	Q1	D-17	Q610	D-22
D306	D-8	Q2	D-17	Q611	D-22
D307	D-9	Q3	D-18	Q612	D-23
D308	D-12	Q4	D-18	Q613	E-21
D309	D-13	Q5	B-17	Q614	E-21
D601	E-22	Q6	E-18	Q615	F-22
D602	C-22	Q7	D-18	Q616	E-22
D603	D-23	Q8	D-18	Q617	C-25
D604	B-25	Q9	B-17	Q701	E-20
D605	D-23	Q10	B-18	Q741	G-20
D606	C-23	Q11A	I-9	Q742	G-20
D701	B-21	Q11B	I-3	Q751	E-20
D702	B-21	Q12A	H-12	Q781	E-20
D703	H-19	Q12B	H-5	Q782	E-20
D741	F-20	Q51	D-16	Q791	H-19
D742	G-20	Q52	C-16	Q792	G-19
D743	G-19	Q53	D-15	Q794	H-18
D744	G-20	Q54	C-15	Q999	G-23
D745	F-22	Q81B	I-2		
D746	E-22	Q82B	H-2		
		Q83B	H-2		
IC51	E-16	Q101	H-16		
IC81	F-18	Q101(BD)	F-35		
IC81A	G-9	Q102	H-16		
IC81B	G-3	Q103	G-18		
IC101(BD)	E-28	Q201	E-23		
IC102(BD)	D-28	Q231	F-25		
IC201	D-25	Q232	E-25		
IC202	H-25	Q233	F-24		
IC221	G-25	Q234	E-25		
IC222	F-26	Q252	E-24		
IC223	F-25	Q253	E-24		
IC253	E-23	Q351	D-6		
IC601	D-21	Q352	C-7		

BD : Used on BD board.

Note:

- ○—— : parts extracted from the component side.
- —— : parts extracted from the conductor side.
- ⊡ indicates side identified with part number.
- ● : Through hole.
- ▒ : Pattern on the side which is seen.
- ▒ : Pattern of the rear side.
- G : Germany model
  IT : Italian model



3. PRINTED WIRING BOARDS—Tuner/Deck/CD Section—

- Refer to page 35 for Semicondnctor Lead Layouts.
- Refer to page 36 for Circuit Boards Location.

Note:

- ○—— : parts extracted from the component side.
- —— : parts extracted from the conductor side.
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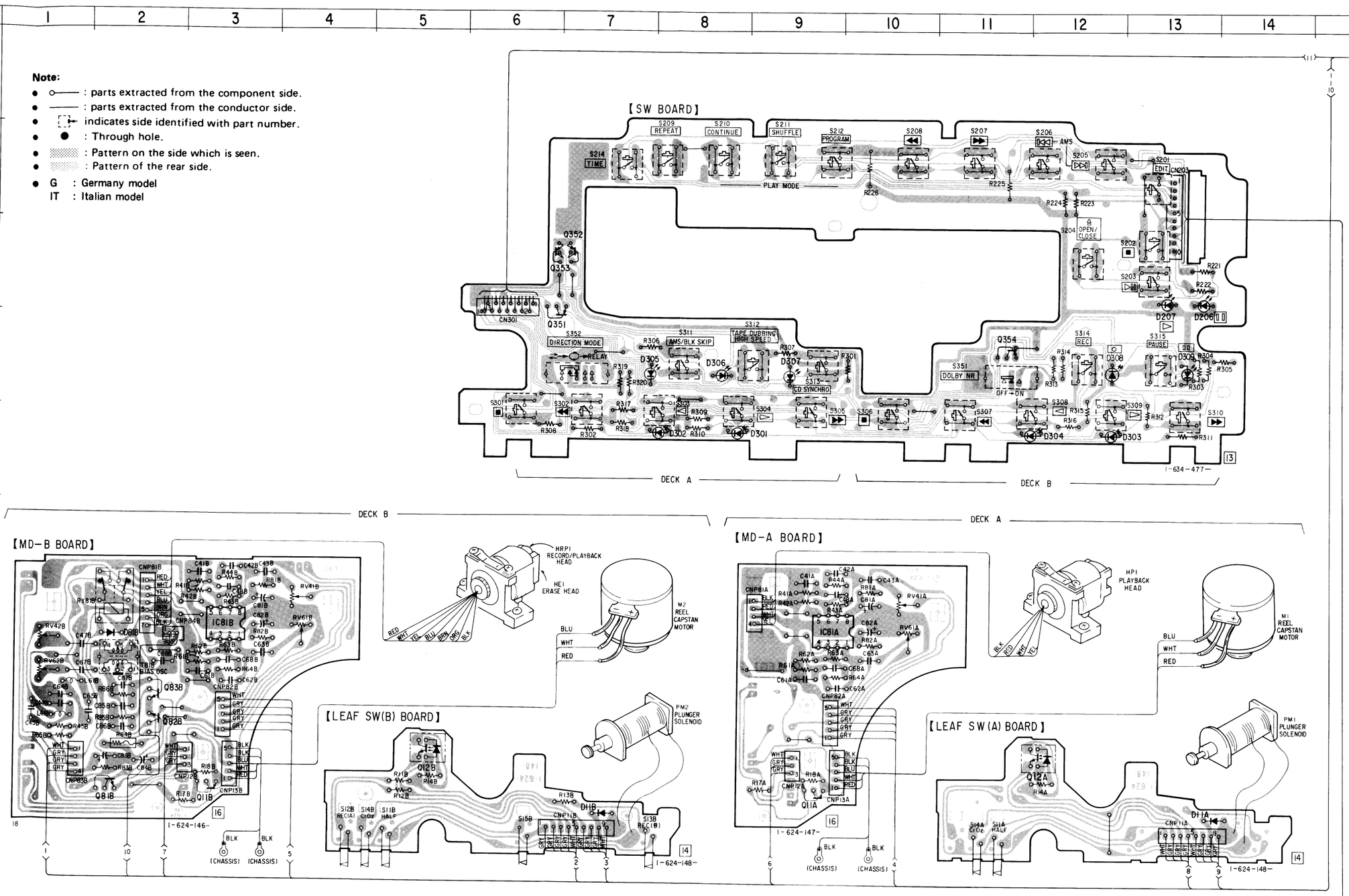


【MAIN BOARD】

【LOADING BOARD】

【BD BOARD】

OPTICAL PICK-UP BLOCK (KSS-240A)

TO DISPLAY BOARD CN501 (See page 51)

TO DISPLAY BOARD CN502 (See page 51)

TO VR BOARD (See page 52)

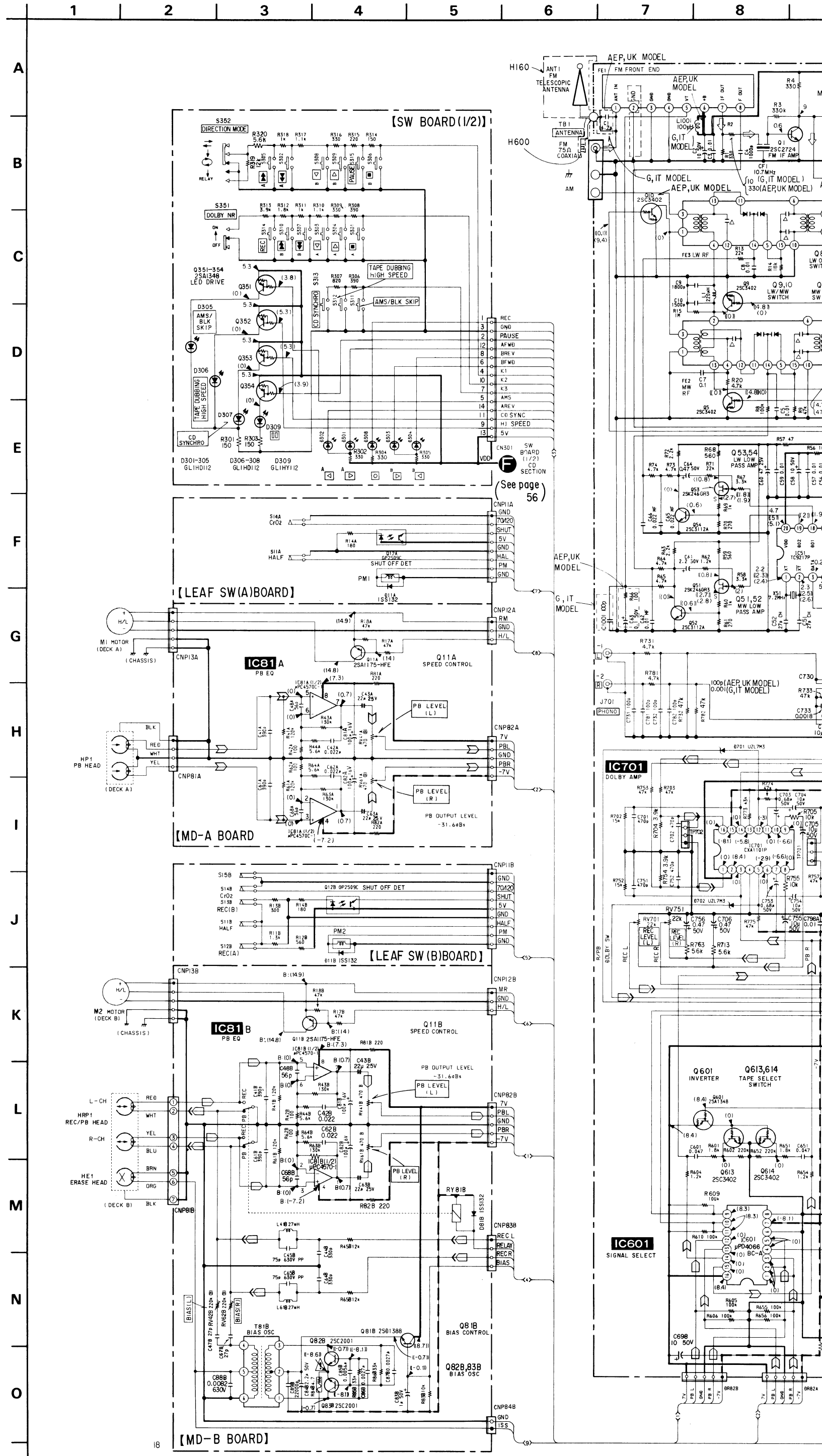
TO JUMPER BOARD CN402 (See page 52)

TO TRANSFORMER BOARD CN902 (See page 51)

TO SHIELD BOARD CN504 (See page 52)

7-4. SCHEMATIC DIAGRAM—Tuner/Deck Section—

- Refer to page 57 for IC Block Diagrams.
- Refer to page 60 for FE1 FM Front End.



【MAIN BOARD (1/2)】

IC81 FM IF/ AM RF AMP

IC706 RESET

IC51 PLL

IC705 SIGNAL SELECT

IC999 DC CONVERTER

IC704 PHONO AMP

IC702 SURROUND

IC703 SWITCH

IC604 SYSTEM CONTROL

IC602 REC AMP

IC603 AMS

Q53,54 LW LOW PASS AMP

Q51,52 MW LOW PASS AMP

Q1 2SC2724 FM IF AMP

Q2 2SC2724 FM IF AMP

Q3 2SC3402

Q3,4 FM BAND SWITCH

Q4 2SA1348

Q8 LW OSC SWITCH

Q9,10 LW/MW SWITCH

Q7 MW OSC SWITCH

Q5,6 LW/MW SWITCH

Q101,102 —MUTING—

Q103 2SC3402 MUTING

Q794 2SA1345 SWITCH

Q791,792 REG

Q781 INVERTER

Q608 MOTOR SWITCH

Q611,612 SOLENOID SWITCH(A)

Q609,610 SOLENOID SWITCH(B)

Q741,742 SWITCH

Q999 SWITCH

Q782 MUTE SWITCH

Q701,751 MUTE

Q601 INVERTER

Q613,614 TAPE SELECT SWITCH

Q603,615 AMS SWITCH

Q616 INVERTER

Q604,606 BIAS SWITCH

Q617 RESET

Q607 2SA1348 AUB SWITCH

D745 US1060M

D746 US1060M

D605 1IES2

D604 US1060M

D601 US1060M

X601 4MHz

X51 7.2MHz

S702 SYSTEM RESET

S701-2 ISS

S701-1 ISS

TP601

TP702

TP701

TP81 (NULL)

CF1 10.7MHz

CF2 10.7MHz

CFB1 10.7MHz

X81 4.5MHz F15

L1001 100μH

L83 390μH

1FT81

1FT82

FL81

FE3 LW RF

FE2 MW RF

RV751 REC LEVEL (TR)

RV81 22k B

RV82 22k B

RV83 22k B

RV84 22k B

TO DISPLAY BOARD CN501 (See page 49)

TO DISPLAY BOARD CN502 (See page 49)

TO MAIN BOARD(1/2) CD SECTION (See page 55)

TO TRANSFORMER BOARD CN902 (See page 49)

TO JUMPER BOARD CN402 (See page 49)

TO MAIN BOARD (1/2) CD SECTION (See page 55)

TO MAIN BOARD (1/2) CD SECTION (See page 55)

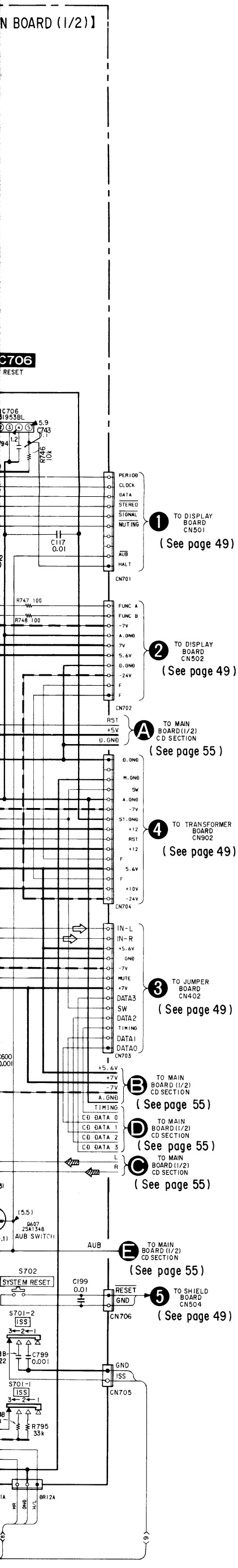
TO MAIN BOARD (1/2) CD SECTION (See page 55)

TO MAIN BOARD (1/2) CD SECTION (See page 55)

TO SHIELD BOARD CN504 (See page 49)

CN701 CN702 CN704 CN703 CN706 CN705 CN601

DR82B DR82A DR83B DR12B DR12A DA11B DA11A

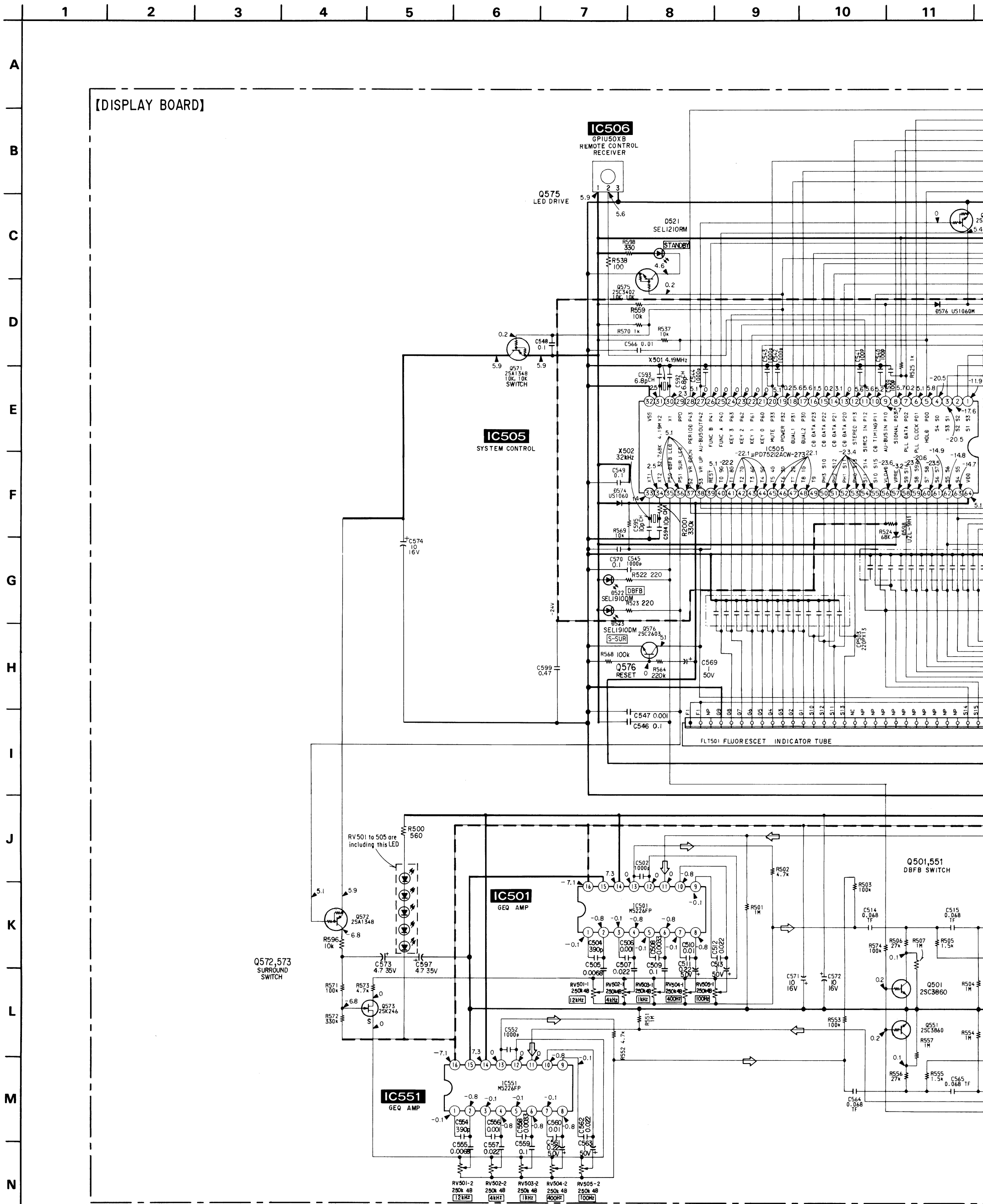


Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- : fusible resistor.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

- : B+ Line
- : B− Line
- : adjustment for repair.
- Voltage is dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM
  ( ) : Playback
  (( )) : MW
  < > : LW
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  : FM
  : PB (DECK A)
  : CD
  : PB (DECK B)
  : REC
- G : Germany model
  IT : Italian model


【DISPLAY BOARD】
IC506
GPIU50XB
REMOTE CONTROL
RECEIVER
Q575
LED DRIVE
D521
SEL1210RM
R598
330
STANDBY
R538
100
Q575
2SC3402
10K, 10K
R559
10k
R570 1k
R537
10k
C566 0.01
C548
0.1
Q571
2SA1348
10K, 10K
SWITCH
X501 4.19MHz
C593
6.8pCH
C592
6.8pCH
C544
1000p
C543
1000p
C541
100p
C540
100p
C539
100p
R525 1k
D576 US1060M
IC505
SYSTEM CONTROL
IC505
-22.1 μPD75212ACW-273 22.1
X502
32kHz
C549
0.1
D574
US1060
C595
10pCH
C594
10pCH
R2001
330k
R569
10k
R524
68K
UZL-9H1
C574
10
16V
C570
0.1
C545
1000p
R522 220
D522
SEL1910DM
DBFB
R523 220
D523
SEL1910DM
S-SUR
Q576
2SC2603
R568 100k
Q576
RESET
R564
220k
C569
1
50V
C599
0.47
-24V
C547 0.001
C546 0.1
CP513
220PX13
FLT501 FLUORESCET INDICATOR TUBE
R500
560
RV501 to 505 are
including this LED
Q572,573
SURROUND
SWITCH
Q572
2SA1348
R596
10k
6.8
C573
4.7 35V
C597
4.7 35V
R571
100k
R573
4.7k
Q573
2SK246
R572
330k
IC501
GEQ AMP
IC501
M5226FP
C504
390p
C506
0.001
C508
0.0033
C510
0.01
C512
0.022
C505
0.0068
C507
0.022
C509
0.1
C511
0.22
50V
C513
50V
RV501-1
250k 4B
12kHz
RV502-1
250k 4B
4kHz
RV503-1
250k 4B
1kHz
RV504-1
250k 4B
400Hz
RV505-1
250k 4B
100Hz
C502
1000p
R502
4.7k
R501
1M
R503
100k
C514
0.068
TF
C515
0.068
TF
R574
100k
R506
27k
R507
1M
R505
1.5k
C571
10
16V
C572
10
16V
Q501
2SC3860
R504
1M
Q501,551
DBFB SWITCH
R551
1M
R553
100k
R552 4.7k
C552
1000p
IC551
GEQ AMP
IC551
M5226FP
C554
390p
C556
0.001
C558
0.0033
C560
0.01
C562
0.022
C555
0.0068
C557
0.022
C559
0.1
C561
0.22
50V
C563
50V
RV501-2
250k 4B
12kHz
RV502-2
250k 4B
4kHz
RV503-2
250k 4B
1kHz
RV504-2
250k 4B
400Hz
RV505-2
250k 4B
100Hz
Q551
2SC3860
R554
1M
R557
1M
R556
27k
R555
1.5k
C565
0.068 TF
C564
0.068
TF

CN501
PERIOD
CLOCK
DATA
STEREO
SIGNAL
MUTING
AUB
HALT

R526 100
R527 100
R528 100
R529 100
R531 100
R532 100
R533 100
R530 100
R534 100

1 TO MAIN BOARD CN701 (See page 45)

Q574 2SA1348
Q574 AU BUS SWITCH
D576 US1060M

CN502
FUNCA
FUNC B
-7V
A GND
7V
5.6V
D.GND
-24V
F
F

R535 100
R536 100

2 TO MAIN BOARD CN702 (See page 45)

PRESET TIMER S521 S560
ENTER S518 S561
MEMORY S517 S562
TUNING S514 S563
SHIFT S520
BAND S513
TUNING S515
NEXT S519
AUTO S516
S-SUR S508
DBFB S507
VIDEO/AUX S512
PHONO
TUNER S511
CD S510
TAPE S509
TIMER CONTROL S501
SLEEP S502
TIMER SET S503
CLOCK SET S504
CLOCK DISPLAY S505
POWER S506

D577 US1060M
D578 US1060M
D579 US1060M
D580 US1060M
D581 US1060M
D582 US1060M
D583 US1060M
D588 US1060M
D589 US1060M

EXCEPT FOR IT MODEL
IT MODEL
ST TYPE A
ST TYPE B

CN503
SIGNAL L
SIGNAL R
SIG IN L
DBFB
SIG IN R
VR DOWN
VR UP
CD DATA 3
CD DATA 2
CD DATA 1
CD DATA 0
CD TIMING
POWER SW

CN504
RESET
GND

5 TO MAIN BOARD CN706 (See page 45)

【SHIELD BOARD】

CN401B
OUT-L
OUT-R
IN-L
DBFB
IN-R
DOWN
UP
DATA3
DATA2
DATA1
DATA0
TIMING
POWER

CN402
DATA0
DATA1
TIMING
DATA2
SW
DATA3
+7V
MUTE
-7V
GND
+5.6V
IN-R
IN-L

【JUMPER BOARD】

3 TO MAIN BOARD CN703 (See page 45)

【VR BOA

Q406,456 MUTE
Q406 2SC3860
Q456 2SC3860
Q407,457 MUTE
Q407 2SC3860
Q457 2SC3860
RV406 100k×2 VOLUME
R487 10k
R457 10k (G,IT MODEL)
C9005 0.001 (G,IT MODEL)
C9004 0.001 (G,IT MODEL)
D406 US1060M
IC406 LB1639
VOL LED
VOL MOTOR
IC406 MOTOR DRIVE

G,IT MODEL

【TRANSFORMER BOARD】

CN902
-24
+10
F
+5.6V
F
+12
RST
+12
ST.GND
-7V
A.GND
SW
M.GND
D.GND

CN903
GND
GND
GND
+12
GND
-25
GND
+25

4 TO MAIN BOARD CN704 (See page 45)

Q906 2SD1761 REG
Q907 POWER SWITCH
Q907 2SC3402
Q905 REG
Q905 2SD1761
Q904 REG
Q904 2SB1187
Q903 REG
Q903 2SB1187
D911 UZP5.1-BC
IC901 12V/-12V RE
IC901 M5230L
ICP999 5A

Q501,551 DBFB SWITCH
IC502 BUFFER
Q501 2SC3860
Q551 2SC3860
IC502 M5218AL

【VR BOARD】

Q406,456 MUTE

Q407,457 MUTE

VOLUME

IC406 LB1639 MOTOR DRIVE

VOL LED

VOL MOTOR

CN404 MUTE L GND R

CN403 MIC DBFB -7V HP-L +7V HP-R GND MUTE

CN401A MIC DBFB -7V HP-L +7V HP-R GND MUTE

CN401B OUT-L OUT-R IN-L DBFB IN-R DOWN UP DATA3 DATA2 DATA1 DATA0 TIMING POWER

CN402 DATA0 DATA1 TIMING DATA2 SW DATA3 +7V MUTE -7V GND +5.6V IN-R IN-L

【JUMPER BOARD】

3 TO MAIN BOARD CN703 (See page 45)

D MAIN BOARD CN701 (e page 45)

O MAIN BOARD CN702 (e page 45)

【JACK BOARD】

IC401 MIC AMP

IC451 HEADPHONES AMP

J401 MIX MIC

J451 HEADPHONES

EXCEPT FOR G,IT MODEL

0.001(G,IT MODEL) 100p(EXCEPT FOR G,IT MODEL)

IC801 POWER AMP

【POWER BOARD】

【CAPACITOR BOARD】

Q801 2SC3399 MUTE

CN802 MUTE L GND R

CN801 GND GND GND +12 GND -25 GND +25

TB801 L R SPEAKER IMPEDANCE USE 6-16Ω

EXCEPT FOR G, IT MODEL

G,IT MODEL

【TRANSFORMER BOARD】

IC901 12V/-12V REG

Q906 REG

Q907 POWER SWITCH

Q905 REG

Q908 POWER SWITCH

Q901 RESET

Q904 REG

Q903 REG

CN902 -24 +10 F +5.6V F +12 RST +12 ST.GND -7V A.GND SW M.GND D.GND

CN903 GND GND GND +12 GND -25 GND +25

4 TO MAIN BOARD CN704 (e page 45)

T901 POWER TRANSFORMER

AEP MODEL

G,IT MODEL

AEP,UK MODEL

CN901 ~AC IN

Note:

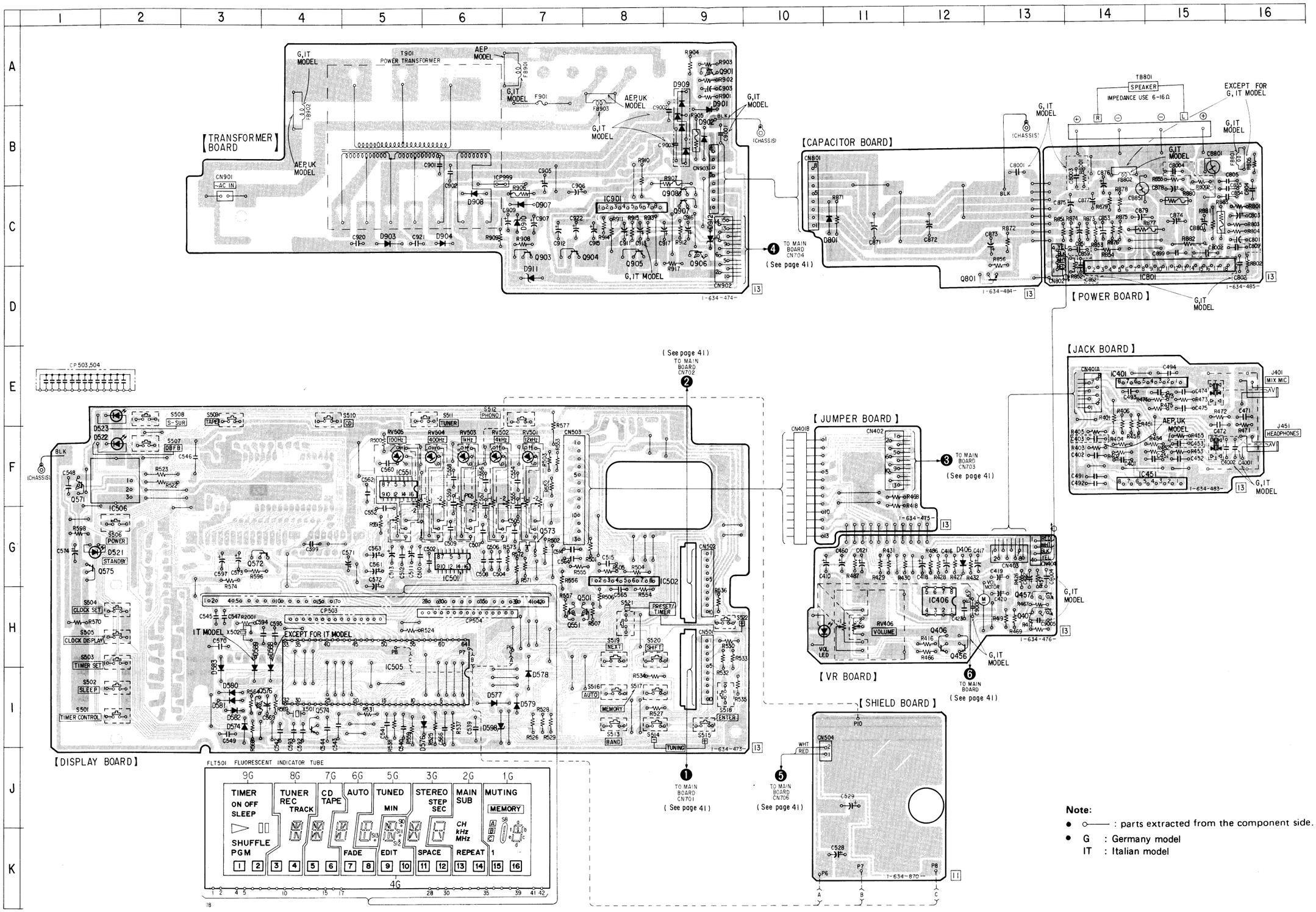
- All capacitors are 50WV or less are and tantalums.
- All resistors are i specified.
- : fusible res

Note: The compone line with mark Replace only

- : B+ Line
- : B− Line
- Voltage is dc with re conditions. no mark : POWER
- Voltages are taken Voltage variations tion tolerances.
- Signal path. ⇨ : FM
- G : Germany mo IT : Italian model

7-6. PRINTED WIRING BOARDS—Power/Amplifier/Display Section—

- Refer to page 35 for Semicondnctor Lead Layouts.
- Refer to page 36 for Circuit Boards Location.



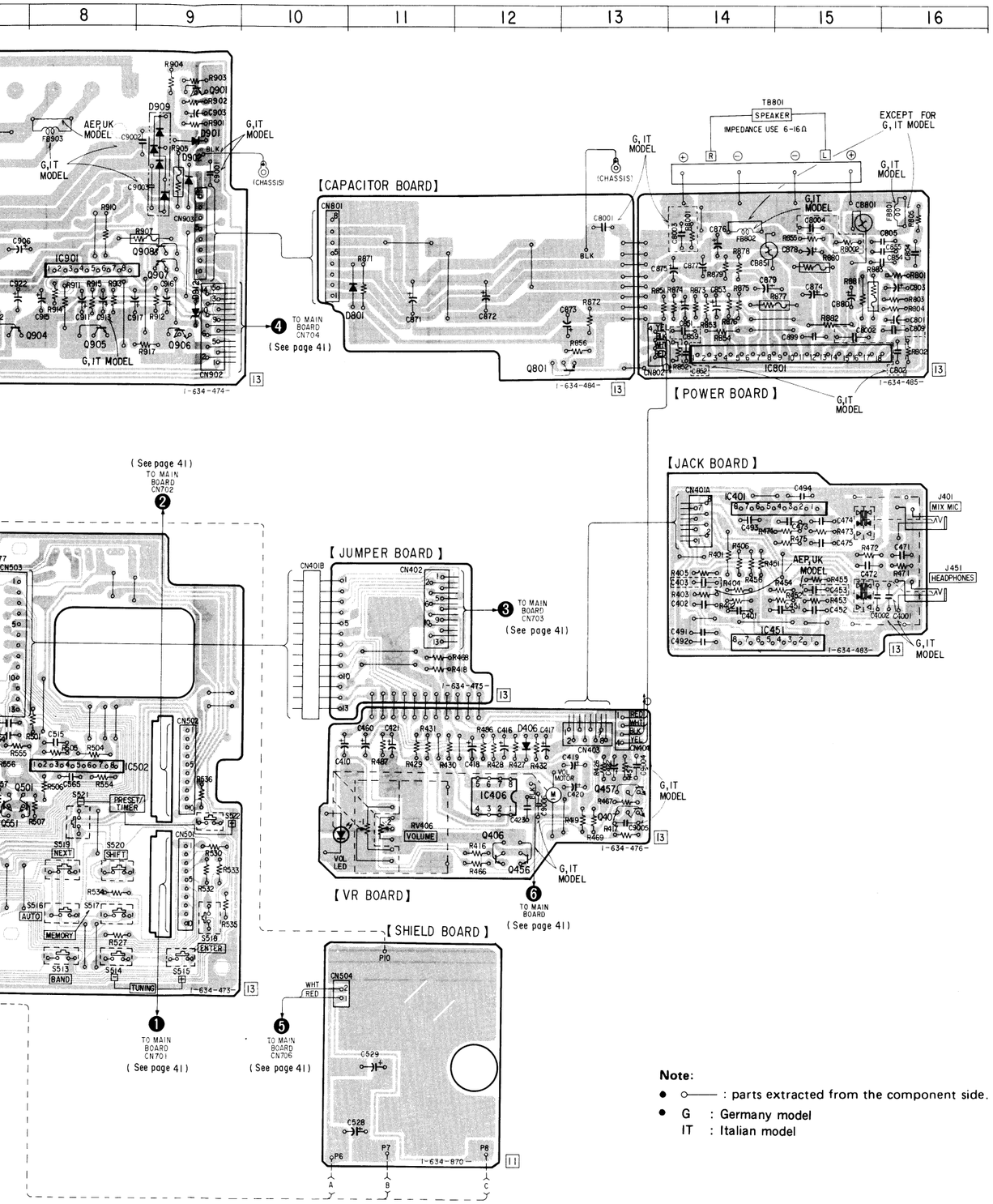
• Semiconductor Location

Ref. No.	Location	Ref. No.	Loca
D406	G-12	IC451	F-
D521	G-1	IC501	G-
D522	F-2	IC502	G-
D523	E-2	IC505	H-
D574	I-3	IC506	F-
D576	I-6	IC551	F-
D577	I-6	IC801	D-
D578	I-7	IC901	C-
D579	I-7		
D580	I-3	Q406	H-
D581	I-3	Q407	H-
D582	I-3	Q456	H-
D583	H-3	Q457	H-
D588	H-4	Q501	H-
D589	H-3	Q551	H-
D598	I-6	Q571	F-
D801	C-11	Q572	G-
D901	B-9	Q573	G-
D902	B-9	Q574	I-
D903	C-5	Q575	G-
D904	C-6	Q576	I-
D907	C-7	Q801	D-
D908	C-6	Q901	A-
D909	A-9	Q903	C-
D910	C-7	Q904	C-
D911	D-7	Q905	C-
D912	C-9	Q906	C-
		Q907	C-
IC401	E-14	Q908	C-
IC406	H-12		

Note:

- ○—— : parts extracted from the component side.
- G : Germany model
  IT : Italian model

Semicondnctor Lead Layouts.
Circuit Boards Location.



Note:

- ○—— : parts extracted from the component side.
- G : Germany model
  IT : Italian model

● Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D406	G-12	IC451	F-14
D521	G-1	IC501	G-6
D522	F-2	IC502	G-8
D523	E-2	IC505	H-5
D574	I-3	IC506	F-2
D576	I-6	IC551	F-5
D577	I-6	IC801	D-15
D578	I-7	IC901	C-8
D579	I-7		
D580	I-3	Q406	H-12
D581	I-3	Q407	H-13
D582	I-3	Q456	H-12
D583	H-3	Q457	H-13
D588	H-4	Q501	H-8
D589	H-3	Q551	H-7
D598	I-6	Q571	F-1
D801	C-11	Q572	G-3
D901	B-9	Q573	G-7
D902	B-9	Q574	I-4
D903	C-5	Q575	G-1
D904	C-6	Q576	I-3
D907	C-7	Q801	D-13
D908	C-6	Q901	A-9
D909	A-9	Q903	C-7
D910	C-7	Q904	C-7
D911	D-7	Q905	C-8
D912	C-9	Q906	C-9
		Q907	C-9
IC401	E-14	Q908	C-9
IC406	H-12		

● Waveforms

1 2.6Vp-p, 7.5μsec
IC202 (4) PLAY

2 5.2Vp-p, 34μsec
IC202 (32)

3 5.6Vp-p, 470nsec
IC202 (35)

4 5.6Vp-p, 4.3MHz
IC202 (41) PLAY (PCK)

5 5Vp-p, 136μsec
IC202 (43) (RCK)

6 2.5Vp-p, 16.9MHz
IC202 (53)

7 3.3Vp-p, 16.9MHz
IC221 (3)

8 4.2Vp-p, 16.9MHz
IC221 (4)

9 2Vp-p, 8.47MHz
IC222 (1)

10 5.2Vp-p, 5.6μsec
IC222 (2)

11 5Vp-p, 4MHz
IC201 (46)

12 3.6Vp-p, 4MHz
IC201 (47)

13 1.2Vp-p
IC101 (40) PLAY (RFO)

14 2.5V, APPROX 500mVp-p
IC101 (43) PLAY (TES)

15 2.5V, APPROX 100mVp-p
IC101 (47) PLAY (FES)

7-7. SCHEMATIC DIAGRAM—CD Section— • Refer to page 53 for Waveforms.

【MAIN BOARD(1/2)】

【SW BOARD(1/2)】

【LOADING BOARD】

IC201 μPD75112CW-064 SYSTEM CONTROL

IC202 CXD2500Q CD DIGITAL SIGNAL PROCESSOR, CLV SERVO

IC253 M54641L LOADING MOTOR DRIVE

IC221 DIGITAL FILTER

IC222 O/A CONVERTER

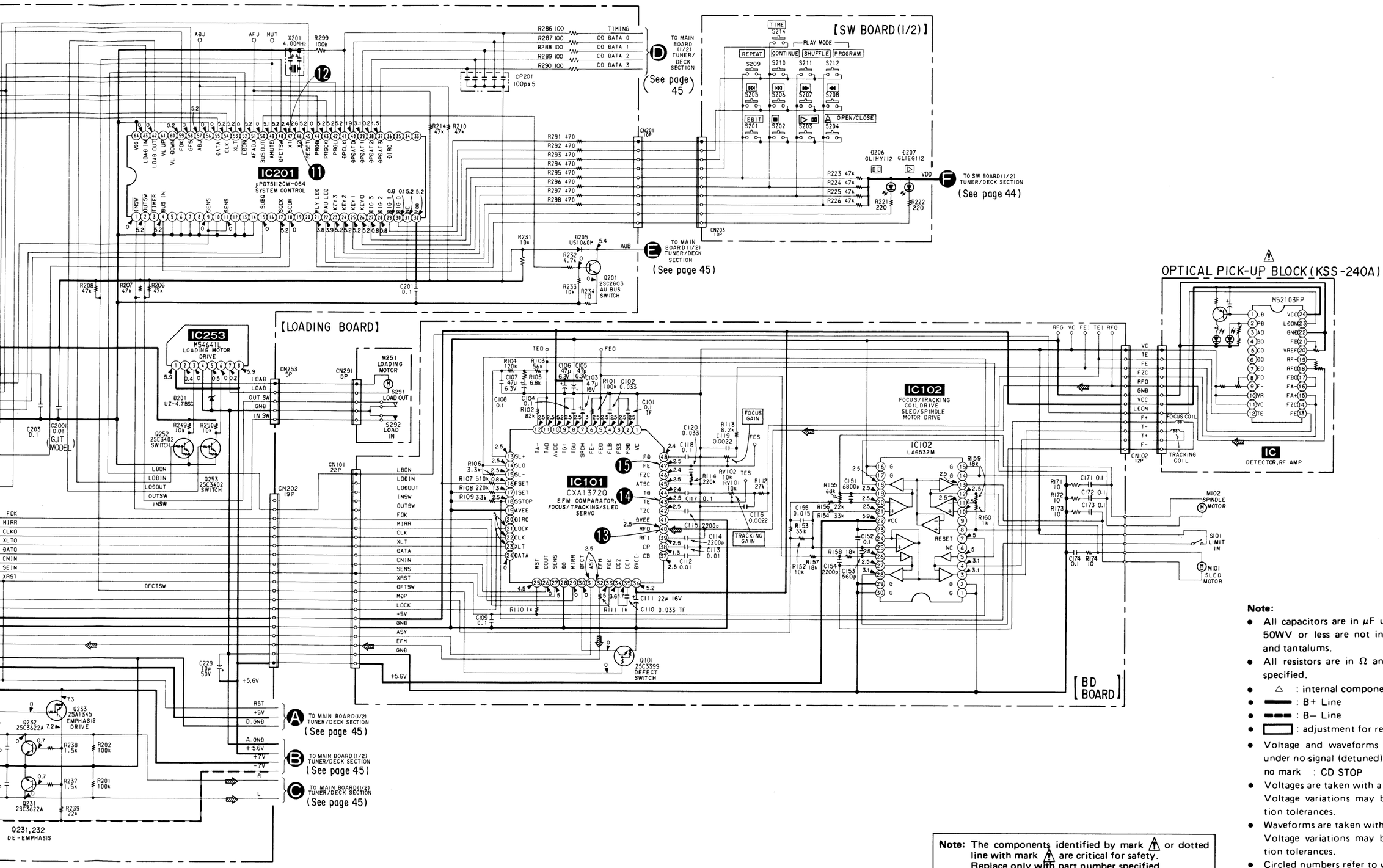
IC223 AUDIO AMP

IC101 CXA1372Q EFM COMPARATOR, FOCUS/TRACKING/SLED SERVO

IC102 LA6532M FOCUS/TRACKING COIL DRIVE SLED/SPINDLE MOTOR DRIVE

Q231,232 DE-EMPHASIS

TO MAIN BOARD(1/2) TUNER/DECK SECTION (See page 45)



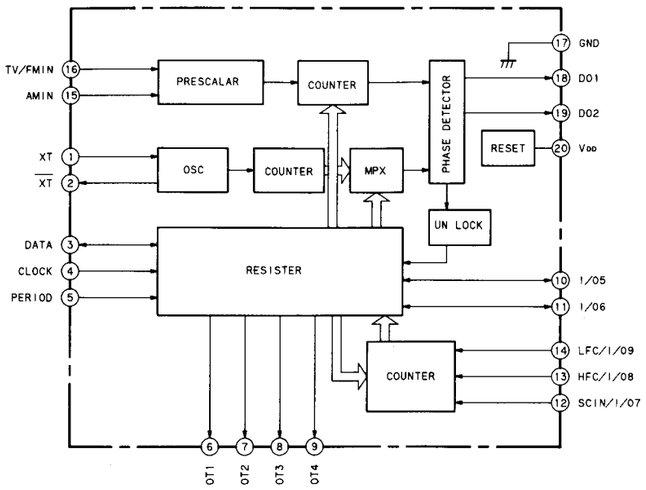
Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Note:

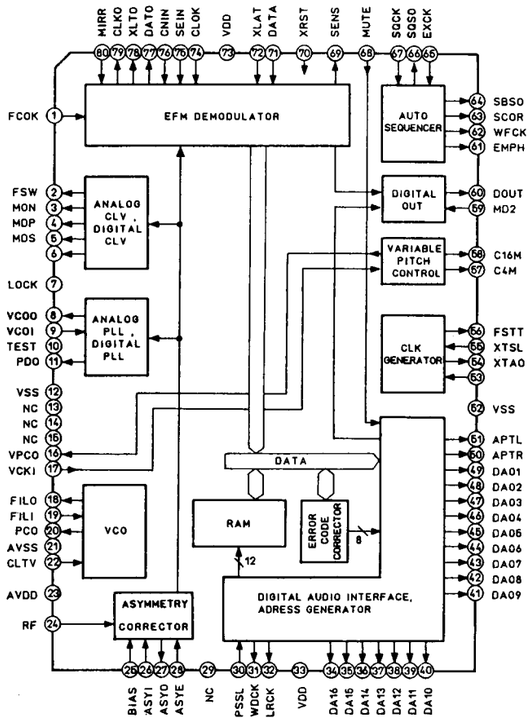
- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- ▬▬ : B+ Line
- ▬ ▬ : B− Line
- ▭ : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : CD STOP
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : CD

• IC Block Diagrams

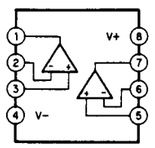
• IC51 TC9217P



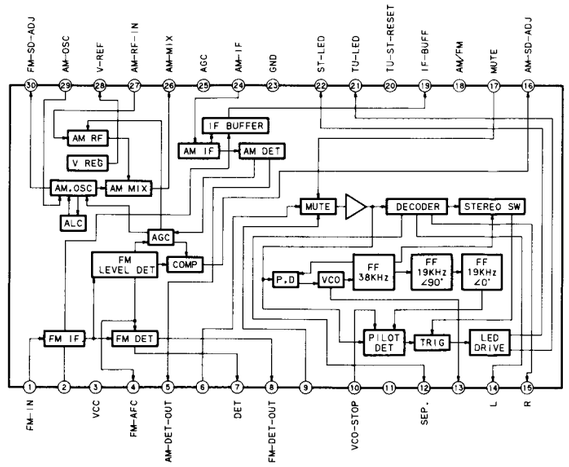
• IC202 CXD2500Q



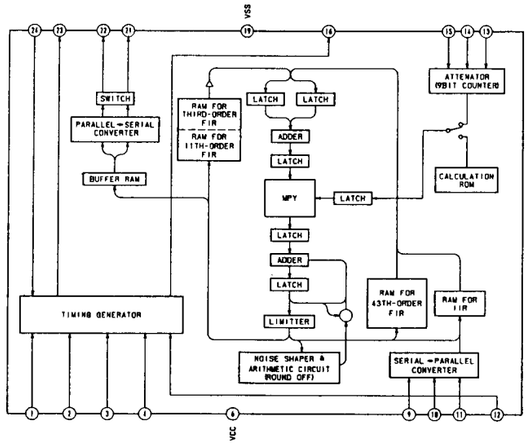
• IC223 M5218AP



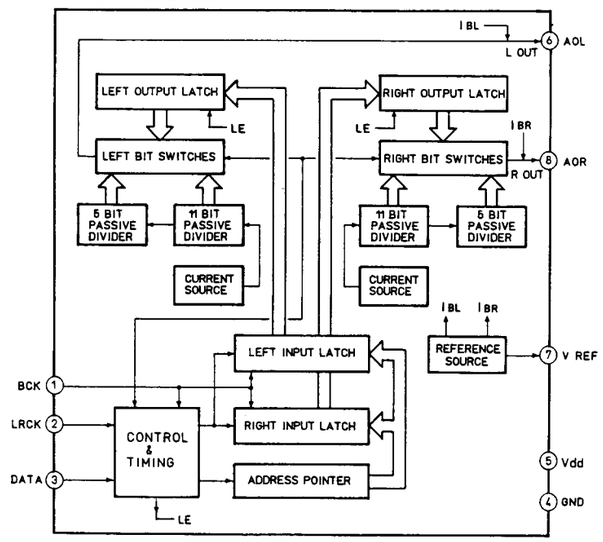
• IC81 LA1851N



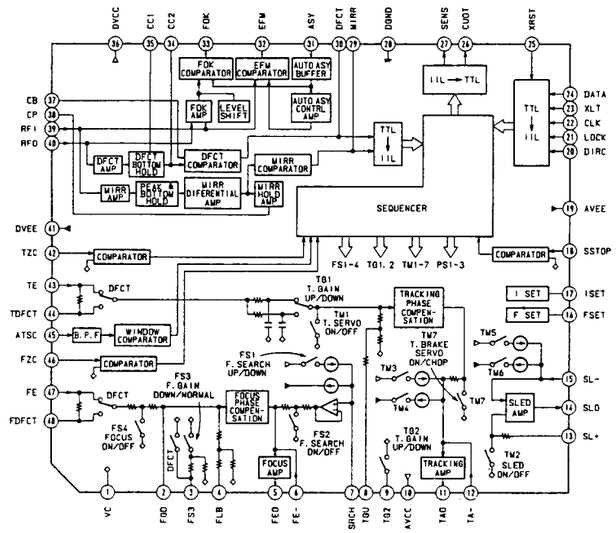
• IC221 CXD2554P



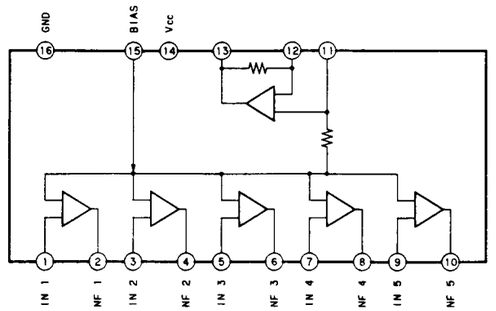
• IC222 TDA1543A



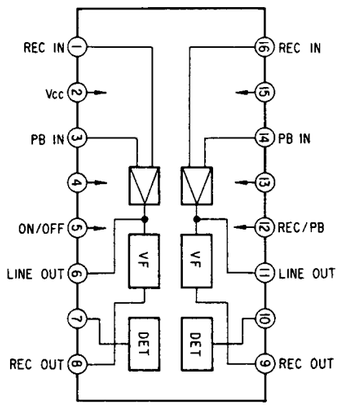
• IC101 CXA1372Q



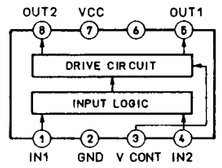
• IC501, IC551 M5226FP



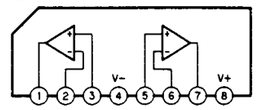
• IC701 CXA1101P



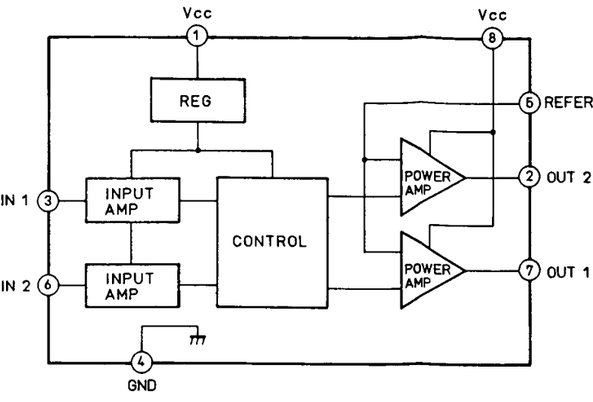
• IC406 LB1639



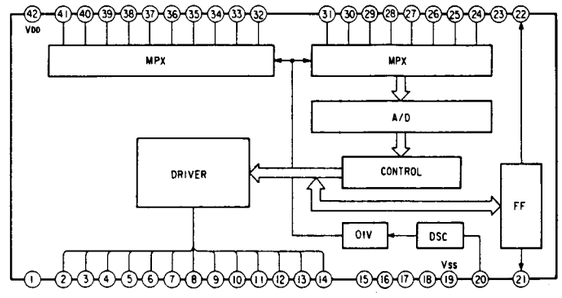
• IC401, 451, 502, 503, 603, 702, 704 M5218AL



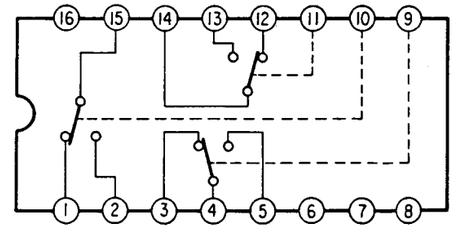
• IC253 M54641L



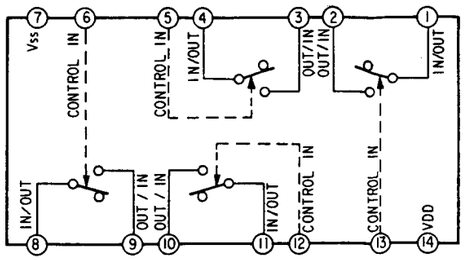
• IC504 LC7566

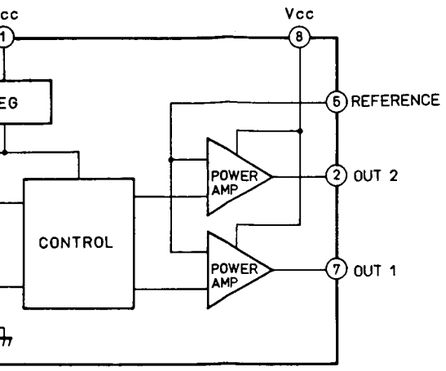


• IC601 μPD4053BC-A

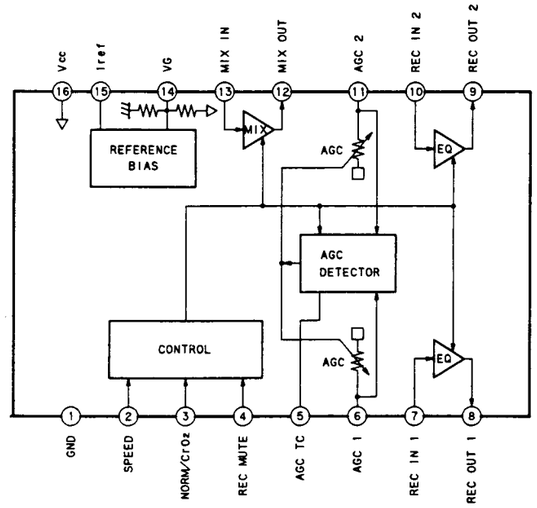


• IC703 μPD4066BC-A

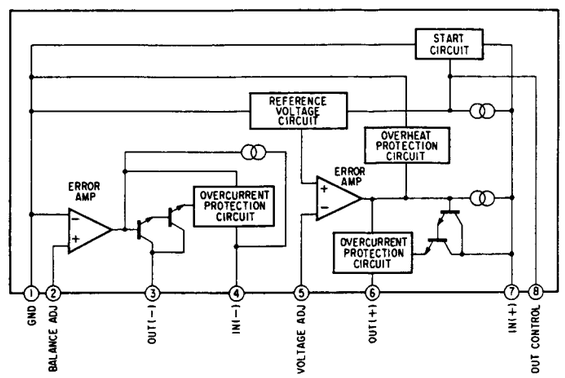




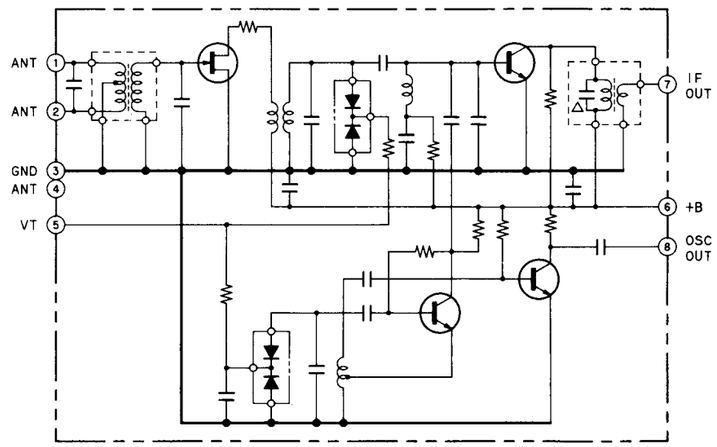
• IC602 CXA1298AP

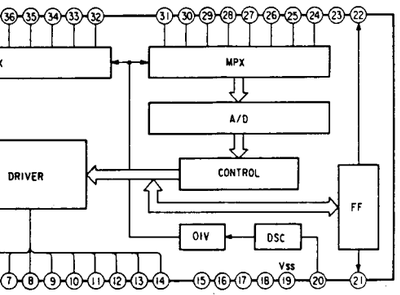


• IC901 M5230L-A

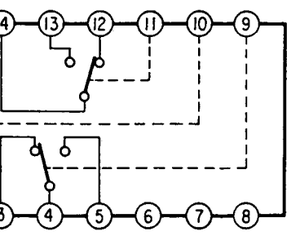


• FE1 FM Front End (AEP, UK)

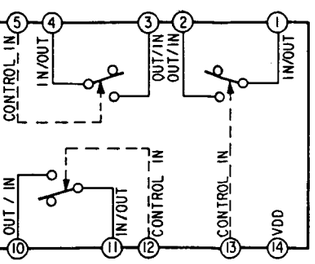




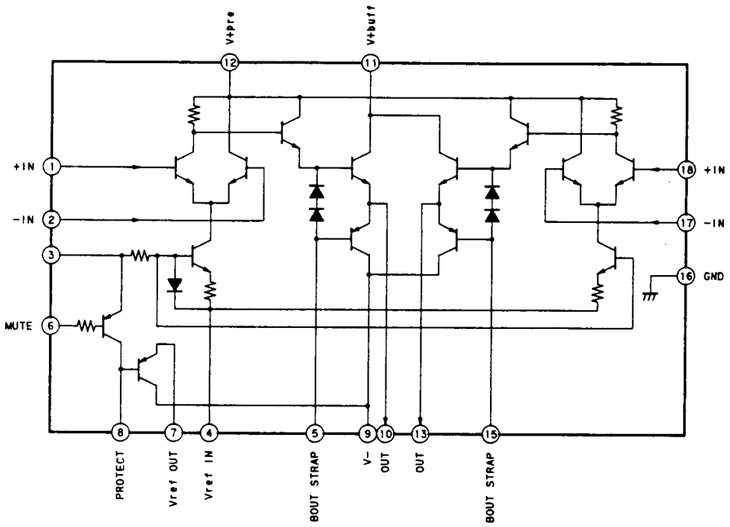
3BC-A



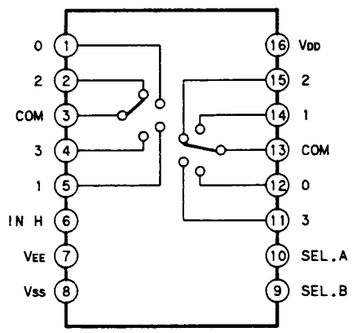
6BC-A



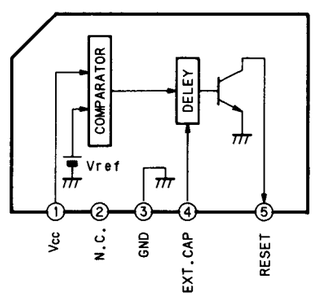
• IC801 STK-4132MK2



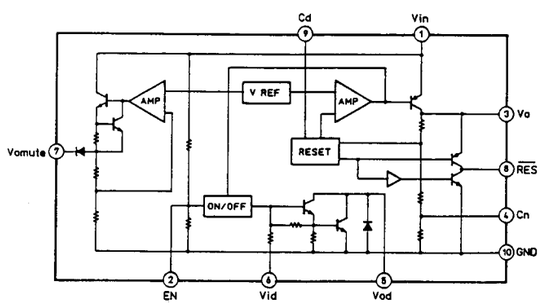
• IC705 M4052BPK



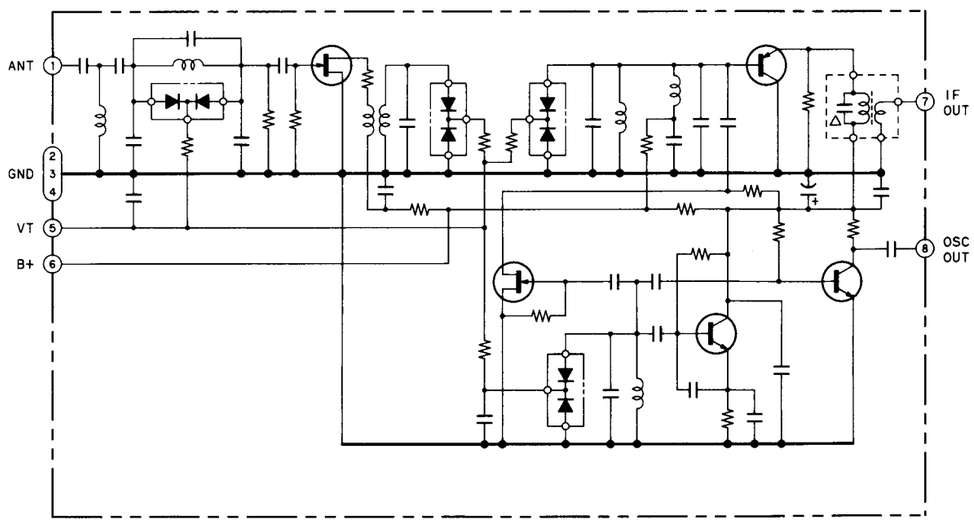
• IC706 M51953BL



• IC999 LA5601



• FE1 FM Front End (Germany, Italian)



7-8. PIN FUNCTIONS

• IC604 Deck Controller (M50964-212SP)

<table>
<tr><th>Pin No.</th><th>Pin Name</th><th>I/O</th><th>Symbol</th><th>Description</th></tr>
<tr><td>1</td><td>V_{CC}</td><td></td><td>V_{CC}</td><td>POWER 5±0.5V</td></tr>
<tr><td>2</td><td>AV_{SS}</td><td></td><td>AV_{SS}</td><td>Analog system GND</td></tr>
<tr><td>3</td><td>VREF</td><td>I</td><td>VREF</td><td>Analog system reference voltage input</td></tr>
<tr><td>4</td><td>D•A</td><td>O</td><td>D•A</td><td>D/A conversion output (Not used : open)</td></tr>
<tr><td>5</td><td>PWM</td><td>O</td><td>PWM</td><td>PWM output (Not used : GND)</td></tr>
<tr><td>6</td><td>P63</td><td>O</td><td>$\overline{\text{AMS}}$</td><td>AMS LED indication output</td></tr>
<tr><td>7</td><td>P62</td><td>O</td><td>$\overline{\text{A FWD}}$</td><td>Deck A FWD LED output</td></tr>
<tr><td>8</td><td>P61</td><td>O</td><td>$\overline{\text{BIAS IV}}$</td><td>TYPE IV bias oscillation output</td></tr>
<tr><td>9</td><td>P60</td><td>O</td><td>$\overline{\text{BIAS II}}$</td><td>TYPE II bias oscillation output</td></tr>
<tr><td>10</td><td>P47</td><td>O</td><td>$\overline{\text{A REV}}$</td><td>Deck A RVS LED output</td></tr>
<tr><td>11</td><td>P46</td><td>O</td><td>$\overline{\text{A REV}}$</td><td>Deck A RVS LED output</td></tr>
<tr><td>12</td><td>AN5</td><td>I</td><td>B HALF</td><td>Beck B record prevention claw A, B detection input (Analogue)
<table>
<tr><th>Voltage (V)</th><th>1V</th><th>1.9V</th><th>2.8V</th><th>3.9V</th><th>5V</th></tr>
<tr><td>Half</td><td>ON</td><td>ON</td><td>ON</td><td>ON</td><td>OFF</td></tr>
<tr><td>Claw A</td><td>OFF</td><td>ON</td><td>OFF</td><td>ON</td><td>OFF</td></tr>
<tr><td>Claw B</td><td>ON</td><td>ON</td><td>OFF</td><td>OFF</td><td>OFF</td></tr>
</table></td></tr>
<tr><td>13</td><td>AN4</td><td>I</td><td>KEY3</td><td rowspan="3">KEY input
<table>
<tr><th>Voltage (V)</th><th>0</th><th>0.3</th><th>0.7</th><th>1.2</th><th>1.7</th><th>2.3</th><th>2.8</th><th>3.4</th><th>4.0</th><th>4.5</th><th>5.0</th></tr>
<tr><td>KEY 1</td><td>B ■</td><td>B ❚❚</td><td>B ▶</td><td>B ◀</td><td>B ○</td><td>A ◀◀</td><td>A ▶▶</td><td></td><td>B</td><td>C</td><td>OFF</td></tr>
<tr><td>KEY 2</td><td>A ■</td><td>A ❚❚</td><td>A ▶</td><td>A ◀</td><td></td><td>B ◀◀</td><td>B ▶▶</td><td>B ●</td><td>↻</td><td>RELAY</td><td>OFF</td></tr>
<tr><td>KEY 3</td><td>AMS</td><td></td><td>H DUB</td><td>N DUB</td><td>CD SYNC</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
</table></td></tr>
<tr><td>14</td><td>AN3</td><td>I</td><td>KEY2</td></tr>
<tr><td>15</td><td>AN2</td><td>I</td><td>KEY1</td></tr>
<tr><td>16</td><td>P41</td><td>O</td><td>$\overline{\text{B FWD}}$</td><td>Deck B FWD LED output</td></tr>
<tr><td>17</td><td>P40</td><td>O</td><td>$\overline{\text{B REV}}$</td><td>Deck B RVS LED output</td></tr>
<tr><td>18</td><td>P37</td><td>O</td><td>$\overline{\text{A FWD}}$</td><td>Deck A FWD LED output</td></tr>
<tr><td>19</td><td>P36</td><td>O</td><td>$\overline{\text{B PAUSE}}$</td><td>Deck B PAUSE LED output</td></tr>
<tr><td>20</td><td>P35</td><td>O</td><td>$\overline{\text{B REC}}$</td><td>Deck B REC LED output</td></tr>
<tr><td>21</td><td>P34</td><td>O</td><td>DOLBY $\overline{\text{B}}$/C</td><td>Dolby $\overline{\text{B}}$/C output</td></tr>
<tr><td>22</td><td>P33</td><td>O</td><td>DOLBY $\overline{\text{ON}}$/OFF</td><td>Dolby $\overline{\text{ON}}$/OFF output</td></tr>
<tr><td>23</td><td>P32</td><td>I</td><td>SIRCS</td><td>SIRCS input or AUDIO BUS reverse input</td></tr>
<tr><td>24</td><td>P31</td><td>O</td><td>$\overline{70}$/120</td><td>Playback EQ output for playing deck</td></tr>
<tr><td>25</td><td>P30</td><td>O</td><td>AUB OUT</td><td>AUDIO BUS output</td></tr>
<tr><td>26</td><td>INT1</td><td>I</td><td>AUB IN</td><td>AUDIO BUS normal input</td></tr>
<tr><td>27</td><td>CNVSS</td><td></td><td>CNVSS</td><td>GND</td></tr>
<tr><td>28</td><td>$\overline{\text{RESET}}$</td><td>I</td><td>$\overline{\text{RESET}}$</td><td>Microcomputer reset input</td></tr>
<tr><td>29</td><td>XIN</td><td>I</td><td>XIN</td><td>Clock input (4MHz)</td></tr>
<tr><td>30</td><td>X_O</td><td>O</td><td>X_O</td><td>Clock output (4MHz)</td></tr>
<tr><td>31</td><td>Φ</td><td>O</td><td>Φ</td><td>Not used (open)</td></tr>
</table>

Pin No.	Pin Name	I/O	Symbol	Description
32	V_{SS}		V_{SS}	GND
33	P57	I	$\overline{TEST}$	Electrical adjustment test mode setting
34	P56	I	TYPE IV	TYPE IV switch input
35	P55	I	B70/$\overline{120}$	Deck B TYPE II switch input
36	P54	I	B SHUT	Deck B Reel table signal input
37	P53	I	A70/$\overline{120}$	Deck A TYPE II switch input
38	P52	I	A SHUT	Deck B Reel table signal input
39	P51	I	$\overline{A\ HALF}$	Deck A Half switch input
40	P50	I	AMS IN	AMS signal input
41	P17	O	$\overline{M\ MUTE}$	Meter mute output
42	P16	O	$\overline{L\ MUTE}$	Line mute output
43	P15	O	$\overline{PASS}$	PASS AMP change output
44	P14	O	$\overline{REC}$/PB	Dolby IC REC/PB select output
45	P13	O	$\overline{AMS}$/BS	AMS AMP characteristics change ouptut
46	P12	O	AMS A/$\overline{B}$	AMS AMP input Deck A/B select output
47	P11	O	SEL A/$\overline{B}$	Dolby IC PB input Deck A/B select output
48	P10	O	$\overline{BIAS\ I}$	TYPE I bias oscillation output
49	P07	O	$\overline{RELAY}$	REC/PB change relay output
50	P06	O	$\overline{PMB}$	Deck B plunger hold output
51	P05	O	$\overline{KICK\ B}$	Deck B plunger kick output
52	P04	O	$\overline{PMA}$	A Deck A plunger hold output
53	P03	O	$\overline{KICK\ A}$	Deck A plunger kick output
54	P02	O	B H/$\overline{L}$	Deck B capstan motor speed select
55	P01	O	A H/$\overline{L}$	Deck A capstan motor speed select
56	P00	O	M $\overline{ON}$/OFF	Capstan motor $\overline{ON}$/OFF
57	P27	O	REC MUTE	REC MUTE output
58	P26	O	B SCHMITT	Deck B reel table schmitt output
59	P25	O	A SCHMITT	Deck A reel table schmitt output
60	P24	O	$\overline{H\ DUB}$	High Speed Dubbing LED output
61	P23	O	$\overline{N\ DUB}$	Normal Speed Dubbing LED output
62	P22	O	$\overline{CD\ DUB}$	Auto CD Synchro LED output
63	P21	I	$\overline{AMS\ AVIRABLE}$	Deck A PAUSE LED output
64	P20	O	$\overline{SIRCS}$/AUB	SIRCS/AUDIO BUS mode select

[TEST MODE]

When making pin ㉝ low (connect TP1 to ground with jumper wire), following function operates.

1. Sourec monitor
   Release the line mute while recording.

2. High speed playback
   On recording, while pressing HIGH SPEED (DUBBING) button, high speed playback operates.
3. Record memory stop
   Using DIRECTION MODE switch ⇄, returns to the recording start point and stops or plays.

● IC505 Display Control (μPD75212ACW-273)

Pin No.	Pin Name	I/O	ACTIVE	Description	Hold
1	S3	O	H	Segment, keyscan output terminals	Low
2	S2				
3	S1				
4	S0				
5	INT4	I	L	HOLD input	input
6	SCK	O	—	CLOCK (TC9217P T-BUS)	
7	SO	I/O	—	DATA (TC9217P T-BUS)	
8	PO3	I	L	SIGNAL input	
9	INT0	I	L	AUDIO-BUS input	input
10	INT1	I	Down	CD display data, timng	
11	P12	I	L	Remote input	
12	P13	I	L	STEREO input	
13	P20	I	—	CD display data	input
14	P21				
15	P22				
16	P23				
17	P30	I	L	DUAL 2 input	input
18	P31	I	L	DUAL 1 input	
19	P32	O	L	POWER port	
20	P33	O	L	MUTING	Low
21	P60	I	H	Keyscan input	input
22	P61				
23	P62				
24	P63				
25	P40	O	—	FUNCTION A output	Low
26	P41	O	—	FUNCTION B output	
27	P42	O	H	AUDIO-BUS output	
28	P43	O	L	PERIOD (TC9217P T-BUS)	
29	PP0	—	—	Not used (open)	—
30	X1	—	—	Main system clock 4.19MHz	—
31	X2				
32	V_{ss}	—	—	GND terminal (0V)	—
33	XT1	—	—	Sub system clock 32.768kHz	—
34	XT2				
35	P50	O	L	DBFB	Low
36	P51	O	L	SURROUND	
37	P52	O	L	Volume DOWN	
38	P53	O	L	Volume UP	
39	RESET	I	L	System reset input terminal	—
40	T0	O	H	Digit output	Low
41	T1				

Pin No.	Pin Name	I/O	ACTIVE	Description	Hold
42	T2	O	H	Digit output	Low
43	T3				
44	T4				
45	T5				
46	T6				
47	T7				
48	T8				
49	T9	O	—	Not used (open)	Low
50	S15	O	H	Segment output	Low
51	S14				
52	S13				
53	S12				
54	S11	O	H	Segment output, specification distinction diode output	Low
55	S10				
56	V_{LOAD}	—	—	Pull-down resistor connect terminal of FIP driver	—
57	V_{PRE}	—	—	Power supply terminal of FIP driver output buffer	—
58	S9	O	H	Segment output	Low
59	S8				
60	S7				
61	S6				
62	S5	O	H	Segment, keyscan output teminal	Low
63	S4				
64	V_{DD}	—	—	Power supply terminal (5V)	—

[KEY, DIODE MATRIX]

	Key						Diode	
	S5	S4	S3	S2	S1	S0	S10	S11
P60	CLOCK	TIMER CONTROL	VIDEO	DUAL	STATION UP	STATION DOWN	TIMER FUNCTION	A
P61	DISPLAY	SLEEP	TUNER	AUTO/ MANUAL	SHIFT	ENTER	VIDEO/ PHONO	B
P62	POWER	TIMER SET	CD	SURROUND	BAND	MERORY	IF+50kHz	C
P63	——	——	TAPE	DBFB	TUNING UP	TUNING DOWN	IF−50kHz	——

1) Pressing the key twice is not allowed. (First pressing is preceded)
2) The remote control precedes the input with the pey.
3) Input the diode in resetting and in releasing HOLD.

● **IC201 CD Controller (μPD75112CW-064)**

Pin No.	Pin Name	I/O	Description
1	$\overline{\text{INSW}}$	I	Disk tray clamp-end input
2	$\overline{\text{OUTSW}}$	I	Disk tray open-end input
3	(TIMER)	I	Timer start input
4	BSIN	I	Audio bus input
5	Not Used	I	GND
6	Not Used	I	GND
7	Not Used	I	GND
8	Not Used	I	GND
9	SENS	I	SENS input, and the state input of every kind from CXD2500Q and CXA1372Q
10	Not Used	I	GND
11	SENS	I	SENS input, and the state input of every kind from CXD2500Q and CXA1372Q
12	Not Used	I	GND
13	Not Used	I	GND
14	Not Used	I	GND
15	SUBQ	I	Q data serial input from CXD2500Q
16	Not Used	O	OPEN
17	SQCLK	O	Sub-code Q data read-in clock output for CXD2500Q
18	SCOR	I	Sub-code synchro S0 and S1 detect input
19	Not Used	O	OPEN
20	Not Used	O	OPEN
21	PLAYL	O	Play LED ON/OFF output
22	PAUSL	O	Pause LED ON/OFF output
23	KEY3	I	Key data input
24	KEY2	I	Key data input
25	KEY1	I	Key data input
26	KEY0	I	Key data input
27	DG3	O	Key-scan digit output
28	DG2	O	Key-scan digit output
29	DG1	O	Key-scan digit output
30	DG0	O	Key-scan digit output
31	Not Used	I	+5V
32	VDD	I	+5V
33	Not Used	O	OPEN
34	Not Used	O	OPEN
35	Not Used	O	OPEN
36	Not Used	O	On time 1 track jump, tracking drive is inversed output for CXA1372Q
37	DPDAT3	O	Display data output for tuner amp micon
38	DPDAT2	O	Display data output for tuner amp micon
39	DPDAT1	O	Display data output for tuner amp micon
40	DPDAT0	O	Display data output for tuner amp micon
41	DPCLK	O	Display data transmission clock output for tuner amp micon
42	PRGL	O	Serial data latch pulse output for digital filter CXD2551P
43	PRGCK	O	Serial clock output for digital filter CXD2551P
44	PRGD	O	Serial clock output for digital filter CXD2551P

Pin No.	Pin Name	I/O	Description
45	$\overline{\text{RESET}}$	I	System reset input terminal (LOW ACTIVE)
46	X2	I	System clock input 4.19MHz
47	X1	I	System clock input 4.19MHz
48	DFCTSW	O	From focus in till spindle kick is ON except then is OFF.
49	AMUTE	O	Muting ON/OFF output
50	BSOUT	O	Audio bus output
51	AFADJ	I	Test mode input, and on time POWER "L" is test move ment of every kind
52	LDON	O	Laser diode ON/OFF output
53	XLT	O	Serial data latch pulse output for CXD2500Q
54	CLK	O	Serial data output for CXD2500Q
55	DATA	O	Serial data output for CXD2500Q
56	Not Used	I	GND
57	ADJ	I	Test mode input, "L" is GFS no check.
58	GFS	I	GFS OK/NO Good input
59	FOK	I	Focus OK NO Good input
60	Not Used	O	OPEN
61	Not Used	O	OPEN
62	LODOUT	O	Disc tray loading-out output
63	LODIN	O	Disc tray loading-in output
64	VSS	I	GND

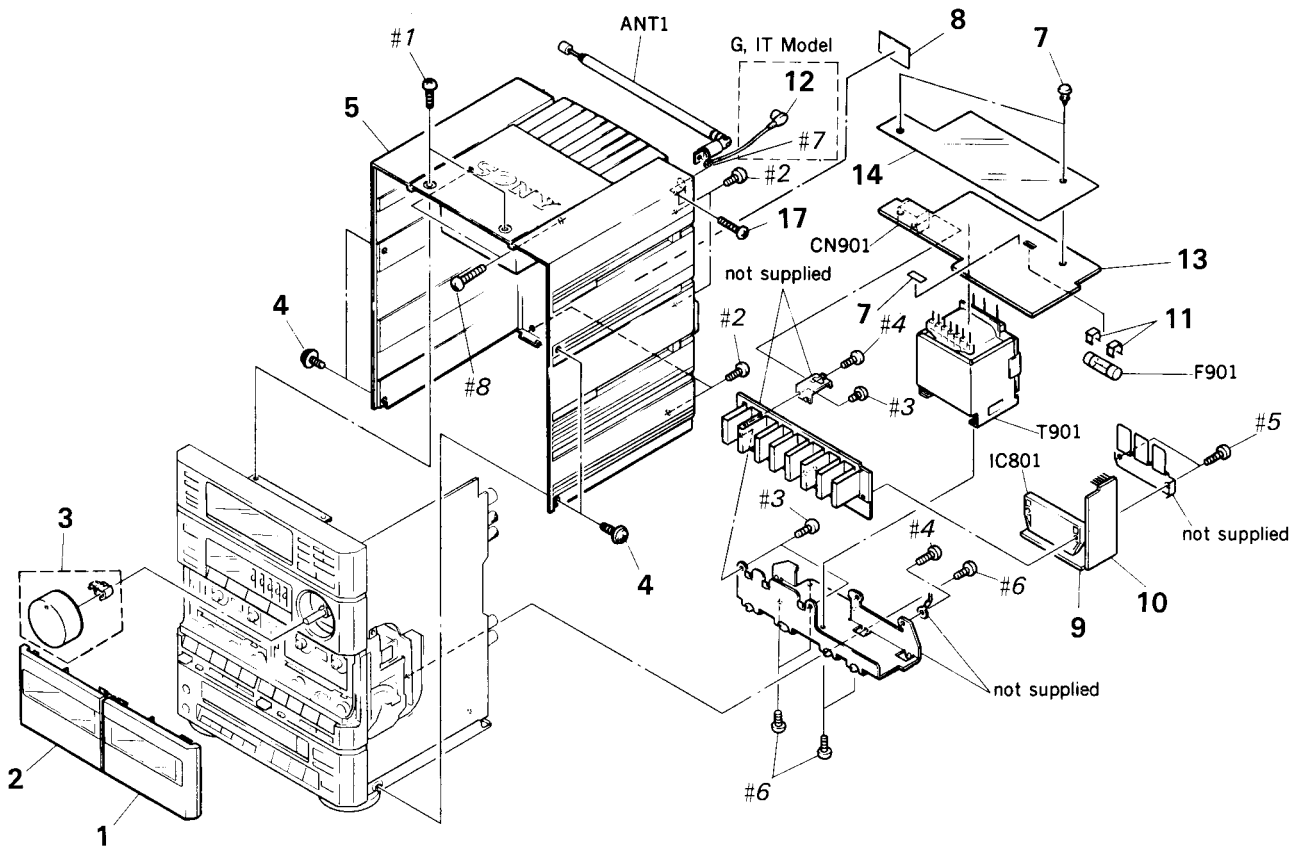
SECTION 8
EXPLODED VIEWS

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE)...(RED)
  ↑ Parts Color ↑ Cabinet's Color
- •G : Germany model
  IT : Italian model
- Hardware(# mark) list is given in the last of this parts list.

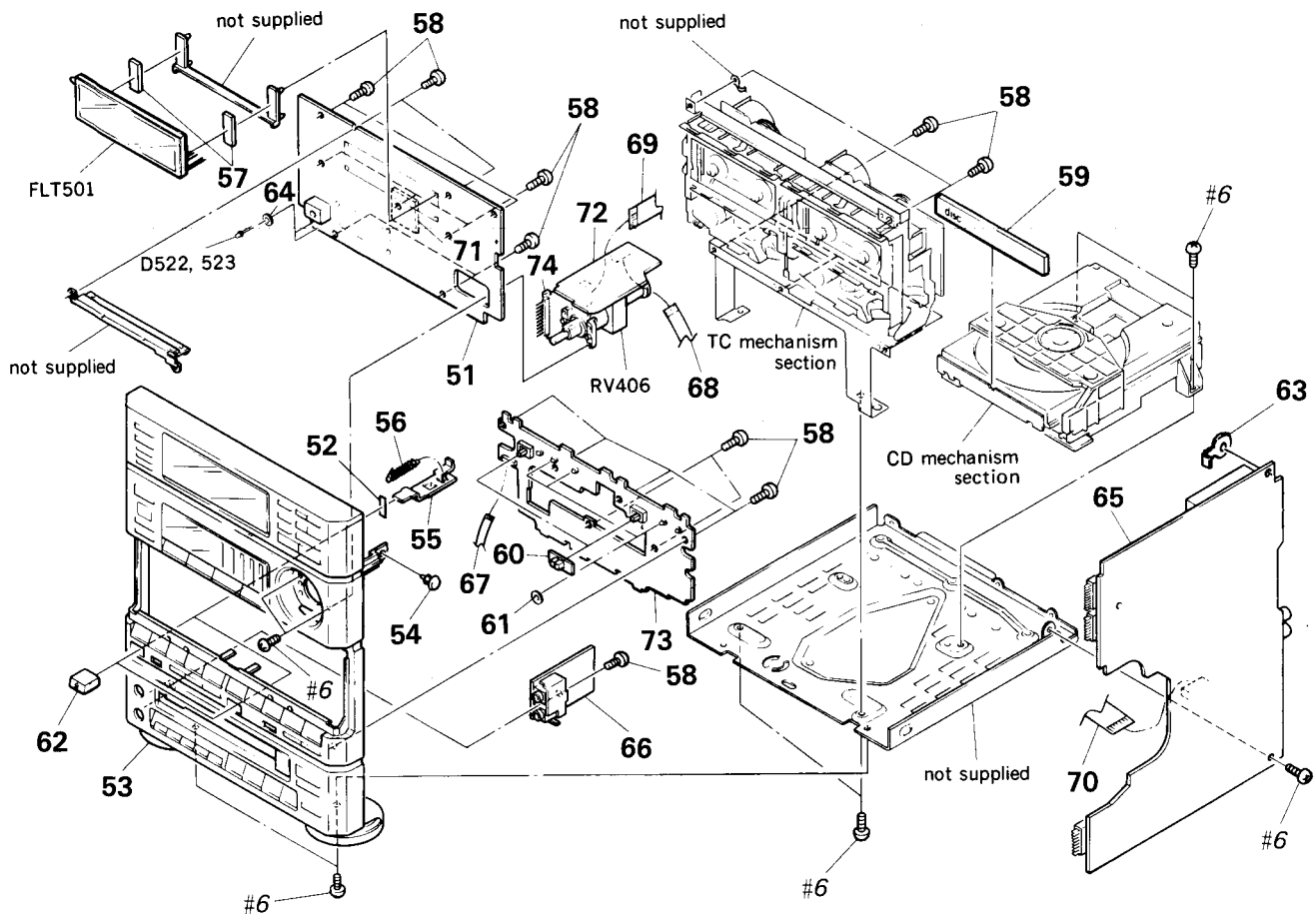
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

8-1. CASE, POWER SECTION



Ref. No.	Part No.	Description	Remark
1	X-4941-495-1	LID (B) ASSY, CASSETTE	
2	X-4941-496-1	LID (A) ASSY, CASSETTE	
3	X-4936-803-1	KNOB (VOLUME) ASSY	
4	3-704-366-01	SCREW (CASE) (M3X8)	
5	4-936-804-11	CASE (H600)	
5	X-4936-802-1	CASE ASSY (H160)	
6	4-812-134-31	RIVET NYLON, 3.5	
7	3-701-947-10	LABEL (T800MA), FUSE	
* 8	4-941-548-01	LABEL, CLASS 1	
* 9	1-634-483-13	POWER BOARD	
* 10	1-634-484-13	CAPACITOR BOARD	
⚠ * 11	1-533-213-31	HOLDER, FUSE	
* 12	1-562-908-11	CONNECTOR, FEMALE (NO SHIELD)	(G, IT)
* 13	1-634-474-11	TRANSUFORMER BOARD	
* 14	4-936-816-01	COVER (INSULATING)	
ANT1	1-501-321-51	ANTENNA, TELESCOPIC (H160)	
F901	1-532-215-00	FUSE, TIME-LAG (0.8A)	
⚠ T901	1-450-937-11	TRANSFORMER, POWER	
IC801	8-749-920-13	IC STK-4132-2	
⚠ CN901	1-526-931-11	INLET, AC	

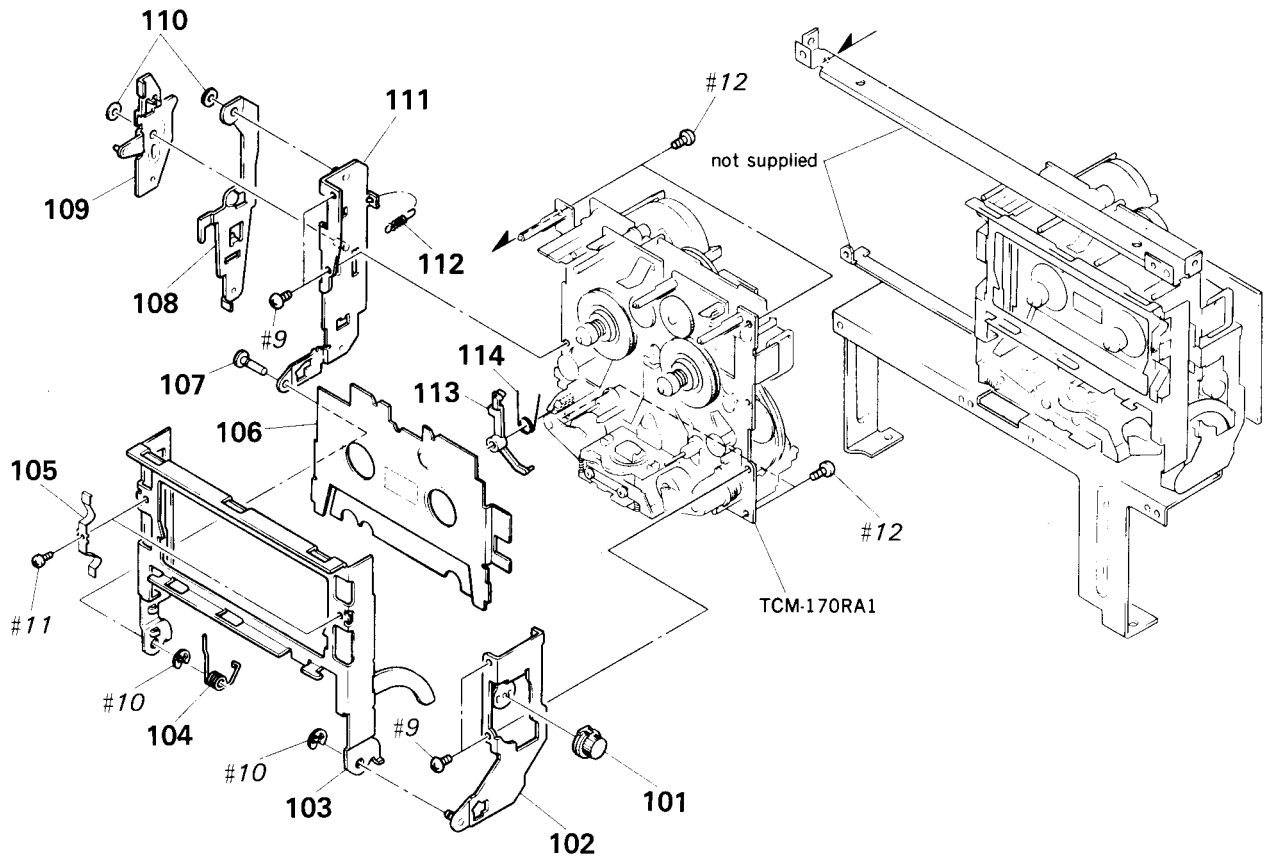
8-2. FRONT PANEL, MAIN BOARD SECTION



Ref. No.	Part No.	Description	Remark
* 51	A-4341-540-A	DISPLAY BOARD, COMPLETE (AEP, UK)	
* 51	A-4341-541-A	DISPLAY BOARD, COMPLETE (G)	
* 51	A-4341-543-A	DISPLAY BOARD, COMPLETE (IT)	
52	3-831-441-11	CUSHION, CABINET (UPPER)	
53	X-4942-637-1	PANEL ASSY, FRONT (H160)	
53	X-4942-638-1	PANEL ASSY, FRONT (H600)	
54	4-812-134-31	RIVET NYLON, 3.5	
* 55	4-936-807-01	SLIDER (EJECT) (B) (DECK B)	
* 55	4-936-808-01	SLIDER (EJECT) (A) (DECK A)	
56	3-489-099-11	SPRING, TENSION	
* 57	4-932-810-11	CUSHION (FL)	
58	4-928-635-01	SCREW, +BV (2.6X8) TAPPING	
59	4-936-833-11	PANEL, LOADING	
60	3-349-054-01	KNOB (SLIDE)	
61	3-831-441-XX	CUSHION, BLIND	
62	3-349-055-01	BUTTON (EJECT)	
* 63	4-925-530-01	PLATE, GROUND	

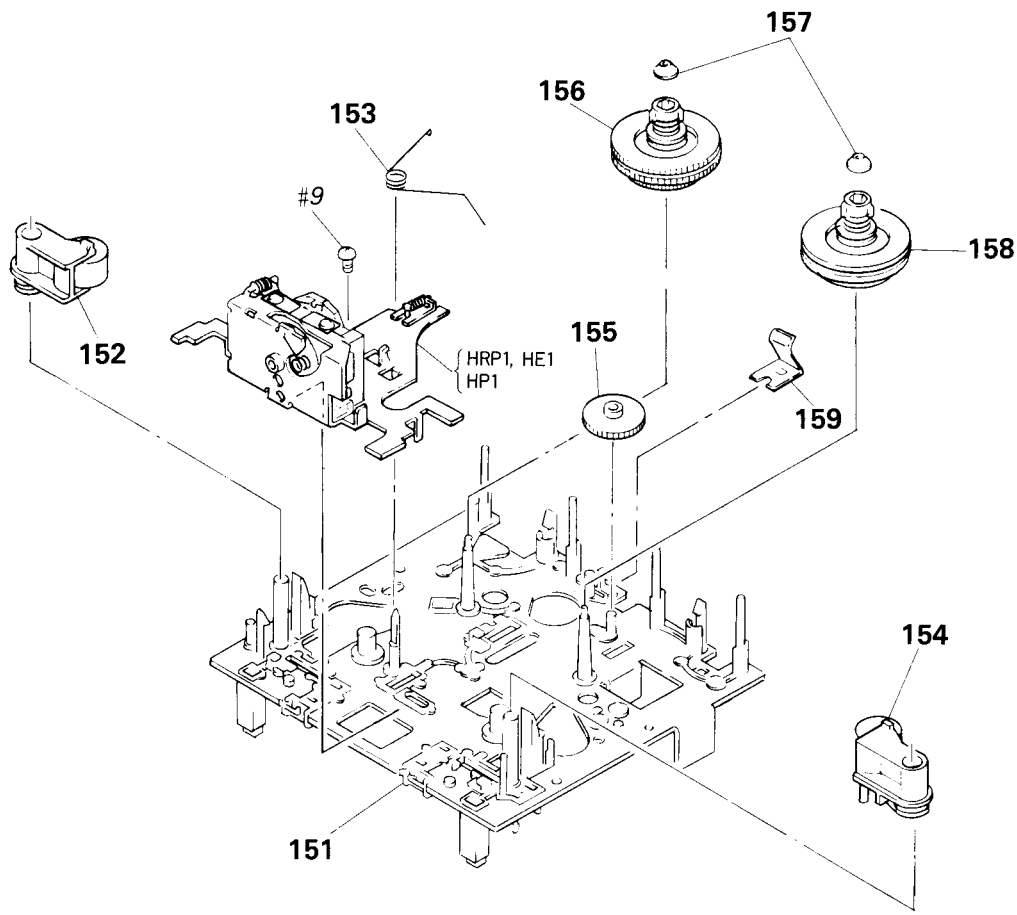
Ref. No.	Part No.	Description	Remark
64	3-350-679-11	WASHER, FIBER	
* 65	A-4345-098-A	MAIN BOARD, COMPLETE (AEP, UK)	
* 65	A-4345-099-A	MAIN BOARD, COMPLETE (G, IT)	
* 66	1-634-485-13	JACK BOARD	
67	1-575-675-11	WIRE, FLAT TYPE (14 CORE)	
68	1-575-674-11	WIRE, FLAT TYPE (8 CORE)	
69	1-575-672-11	WIRE, FLAT TYPE (13 CORE)	
70	1-575-673-11	WIRE, FLAT TYPE (15 CORE)	
* 71	1-634-870-11	SHIELD BOARD	
* 72	1-634-476-11	VR BOARD	
* 73	1-634-477-11	SW BOARD	
* 74	1-634-475-11	JUMPER BOARD	
D522	8-719-313-39	DIODE SEL1910DM-LCO-CD	
D523	8-719-313-39	DIODE SEL1910DM-LCO-CD	
FLT501	1-519-577-11	INDICATOR TUBE, FLUORESCENT	
RV406	1-238-865-11	RES, VAR, CARBON (MOTOR) 100KX2 (VOLUME) (INCUDING VOL LED)	

8-3. MD CHASSIS SECTION



Ref. No.	Part No.	Description	Remark
101	X-3340-185-1	GEAR (DAMPER) ASSY	
* 102	X-3332-494-1	BRACKET (R) ASSY	
* 103	3-340-150-01	HOLDER, CASSETTE	
104	3-346-364-01	SPRING (LOADING), TORSION	
105	3-354-908-01	SPRING (CASSETTE RETAINER)	
* 106	3-340-123-01	RETAINER, CASSETTE	
* 107	3-346-334-01	SHAFT (HOLDER FITTING LEFT)	
* 108	3-340-142-01	LEVER (EJECT)	
* 109	X-3332-465-1	LEVER (LOCK) ASSY	
110	3-558-708-21	WASHER, STOPPER	
* 111	X-3332-466-1	BRACKET (LEFT) ASSY	
112	3-343-474-01	SPRING, TENSION	
113	3-343-476-01	LEVER (EJECT SAFETY LEVER)	
114	3-343-477-01	SPRING, TORSION (EJECT SAFTY)	

8-4. MECHANISM DECK SECTION (1)
(DECK A : TCM-170RA1
DECK B : TCM-170RB7)

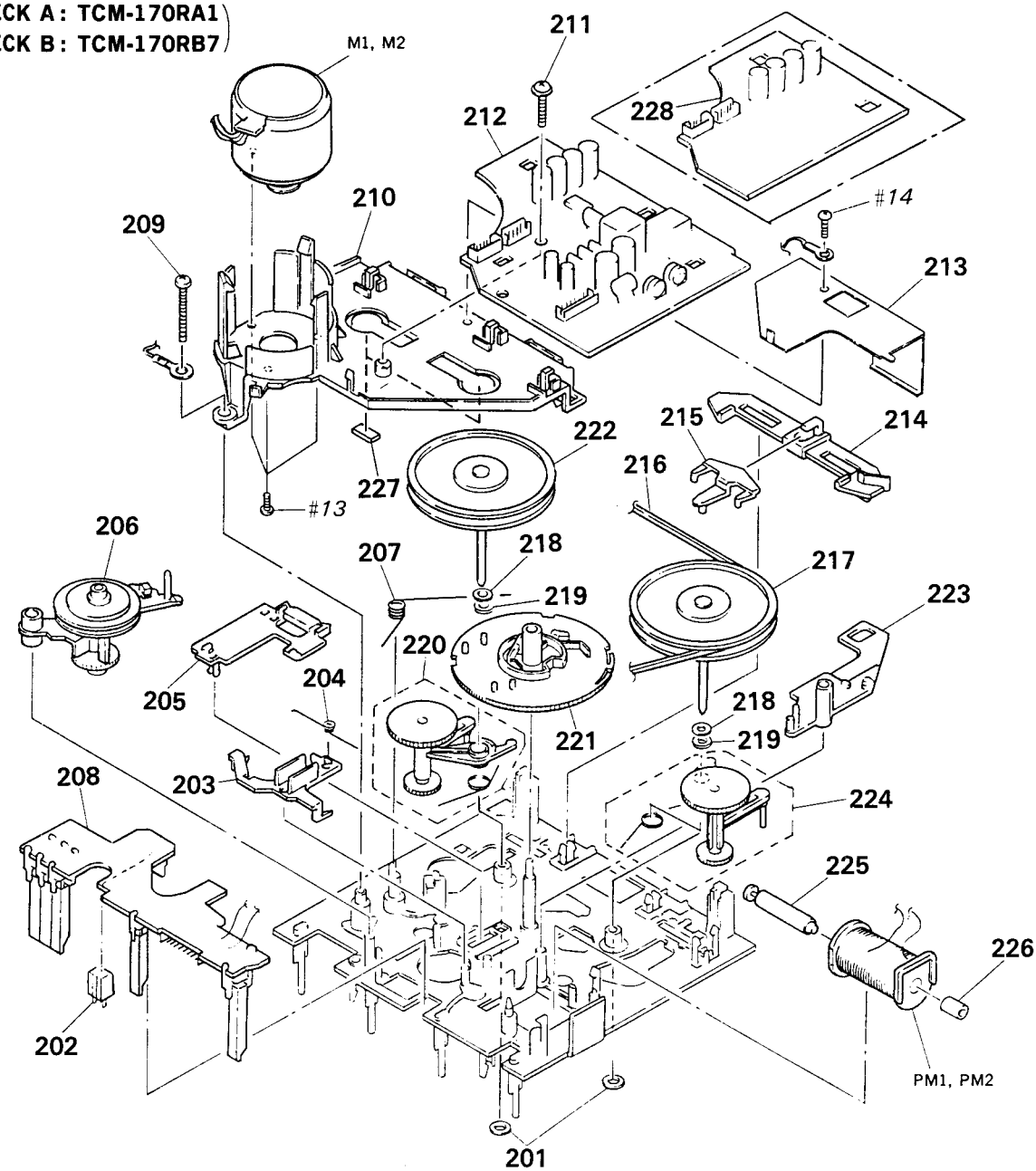


Ref. No.	Part No.	Description	Remark
151	X-3343-439-1	CHASSIS ASSY, MECHANICAL	
152	X-3343-456-1	LEVER (PINCH R) ASSY	
153	3-343-401-01	SPRING, TORSION	
154	X-3343-455-1	LEVER (PINCH F) ASSY	
155	3-343-411-01	GEAR (FF GEAR)	
156	X-3343-415-1	TABEL (REV) ASSY, REEL	
157	3-343-439-01	CAP (REEL TABLE)	
158	X-3343-401-1	TABEL ASSY, REEL	

Ref. No.	Part No.	Description	Remark
159	3-343-420-01	SPRING, LEAF	
HE1	A-2003-504-A	CHASSIS ASSY, HEAD (REC/PB/ERASE) (DECK B)	
HP1	A-2003-503-A	HEAD BOARD, COMPLETE (PB) (DECK A)	
HRP1	A-2003-504-A	CHASSIS ASSY, HEAD (REC/PB/ERASE) (DECK B)	

8-5. MECHANISM DECK SECTION (2)

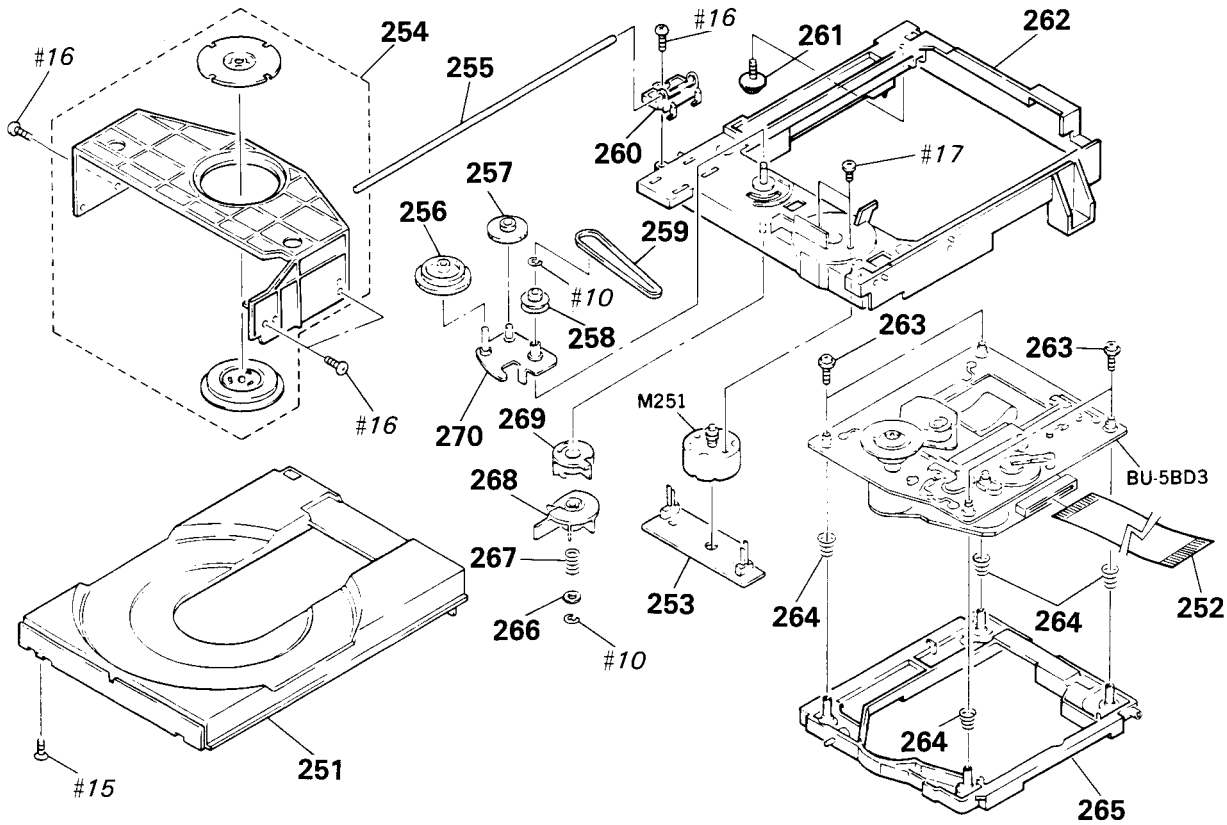
(DECK A : TCM-170RA1)
(DECK B : TCM-170RB7)



Ref. No.	Part No.	Description	Remark
201	3-343-473-01	WASHER, NYLON	
202	3-343-419-01	HOLDER (S SENSER A)	
203	3-343-453-01	SLIDER (BRAKE PLATE)	
204	3-343-482-01	SPRING, TORSION	
205	3-343-461-01	SLIDER	
206	X-3343-414-1	LAVER (FR ARM) ASSY	
207	3-343-430-01	SPRING, TORSION	
* 208	1-624-148-11	LEAF SW (A) BOARD (DECK A)	
* 208	1-624-148-11	LEAF SW (B) BOARD (DECK B)	
209	3-355-801-01	SCREW (BTP 2X18)	
210	X-3343-407-1	BASE (THRUST RETAINER) ASSY	
211	3-343-404-01	SCREW (PTPWH 2X12)	
* 212	1-624-146-11	MD-B BOARD (DECK B)	
213	3-343-480-01	PLATE, SHIELD	
214	3-343-457-01	SLIDER (REVERSE SLIDER)	
215	3-343-462-01	LEVER	
216	3-313-816-00	BELT (CAPSTAN BELT SQUARE)	

Ref. No.	Part No.	Description	Remark
217	X-3343-411-6	FLYWHEEL COMPLETE ASSY	
218	4-605-835-11	WASHER (2.6), POLYSLIDER	
219	3-307-482-00	WASHER, LUMILER	
220	X-3343-454-1	LEVER (TU-R) ASSY	
221	3-343-470-01	GEAR (CAM GEAR)	
222	X-3343-416-7	FLYWHEEL (REV) COMPLETE ASSY	
223	3-343-493-01	LEVER (PM LEVER)	
224	X-3343-453-1	LEVER (TU-F) ASSY	
225	3-343-425-01	ARBOR (MOVABLE IRON ARBOR), IRON	
226	3-343-424-01	ARBOR (FIXED IRON ARBOR), IRON	
227	9-911-863-XX	SPACER (THRUST RETAINER)	
* 228	1-624-147-11	MD-A BOARD (DECK A)	
M1	X-3343-447-1	MOTOR ASSY (DECK A)	
M2	X-3343-447-1	MOTOR ASSY (DECK B)	
PM1	1-454-456-11	SOLENOID, PLUNGER (DECK A)	
PM2	1-454-456-11	SOLENOID, PLUNGER (DECK B)	

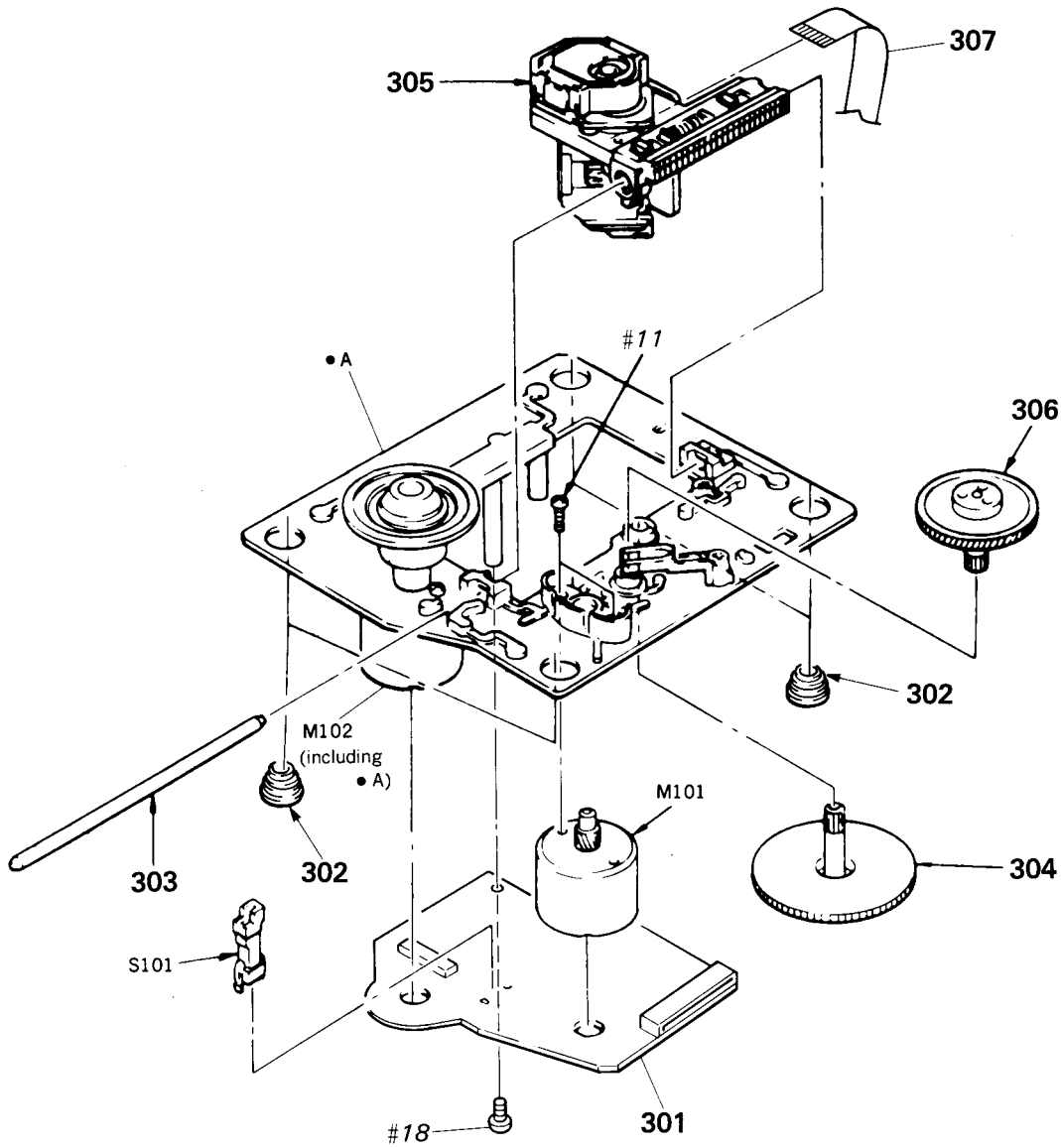
8-6. CD SECTION (1) (CDM13A-5BD3)



Ref. No.	Part No.	Description	Remark
251	4-929-732-01	TABLE, DISK	
252	1-535-832-12	JUMPER, FILM (WITH TERMINAL)	
* 253	1-634-461-11	LOADING BOARD	
254	A-4604-219-A	HOLDER (MG) ASSY	
255	4-929-764-01	SHAFT (TABLE GUIDE)	
256	4-927-620-01	GEAR (P)	
257	4-927-628-01	GEAR (C)	
258	4-929-724-01	PULLEY (B)	
259	4-927-649-01	BELT	
260	4-929-723-01	GUIDE (T)	
* 261	4-917-583-21	BRACKET, YOKE	

Ref. No.	Part No.	Description	Remark
262	X-4929-709-2	CHASSIS ASSY (MD)	
263	4-933-134-01	SCREW (+PTPWH M2.6X6)	
264	4-917-541-01	SPRING (B)	
265	4-929-747-01	HOLDER (BU)	
266	4-927-654-01	WASHER (LIMITER)	
267	3-659-338-00	SPRING, COMPRESSION	
268	4-929-729-01	CAM (B)	
269	4-929-727-01	CAM (A)	
270	X-4929-703-1	ARM ASSY, SWING	
M251	A-4608-362-A	MOTOR (L) ASSY (LOADING)	

8-7. CD SECTION (2)
(BU-5BD3)



Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
* 301	A-4617-371-A	BD BOARD, COMPLETE	
302	4-933-126-01	INSULATOR (A)	
303	4-917-565-01	SHAFT, SLED	
304	4-917-564-01	GEAR (P), FLATNESS	
⚠ 305	8-848-144-11	PISKUP, OPTICAL KSS-240A	
306	4-917-567-01	GEAR (M)	
307	1-575-001-11	WIRE, FLAT TYPE (12 CORE)	
M101	X-4917-504-1	MOTOR ASSY (SLED)	
M102	X-4917-523-3	MOTOR ASSY (SPINDLE)	
S101	1-572-085-11	SWITCH, LEAF (LIMIT IN)	

BD

SECTION 9
ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- CAPACITORS
  uF: μF
- RESISTORS
  All resistors are in ohms
  METAL: Metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F: nonflammable
- COILS
  uH: μH
- SEMICONDUCTORS
  In each case, u: μ, for example:
  uA...: μA..., uPA...: μPA..., uPB...: μPB..., uPC...: μPC..., uPD...: μPD....

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board name.

- G : Germany model
  IT : Italian model

Ref. No.	Part No.	Description		Remark
*	A-4617-371-A	BD BOARD, COMPLETE		
		**********		
		< CAPACITOR >		
C101	1-163-038-00	CERAMIC CHIP 0.1uF		25V
C102	1-163-989-11	CERAMIC CHIP 0.033uF	10%	25V
C103	1-126-163-11	ELECT 4.7uF	20%	50V
C104	1-163-038-00	CERAMIC CHIP 0.1uF		25V
C105	1-126-154-11	ELECT 47uF	20%	6.3V
C106	1-126-154-11	ELECT 47uF	20%	6.3V
C107	1-126-154-11	ELECT 47uF	20%	6.3V
C108	1-163-038-00	CERAMIC CHIP 0.1uF		25V
C109	1-163-038-00	CERAMIC CHIP 0.1uF		25V
C110	1-163-989-11	CERAMIC CHIP 0.033uF	10%	25V
C111	1-131-367-00	TANTALUM 22uF	10%	20V
C112	1-164-232-11	CERAMIC CHIP 0.01uF		50V
C113	1-164-232-11	CERAMIC CHIP 0.01uF		50V
C114	1-164-161-11	CERAMIC CHIP 0.0022uF	10%	100V
C115	1-164-161-11	CERAMIC CHIP 0.0022uF	10%	100V
C116	1-164-161-11	CERAMIC CHIP 0.0022uF	10%	100V
C117	1-163-038-00	CERAMIC CHIP 0.1uF		25V
C118	1-163-038-00	CERAMIC CHIP 0.1uF		25V
C119	1-164-161-11	CERAMIC CHIP 0.0022uF	10%	100V
C120	1-163-989-11	CERAMIC CHIP 0.033uF	10%	25V
C151	1-163-019-00	CERAMIC CHIP 0.0068uF	10%	50V
C152	1-163-038-00	CERAMIC CHIP 0.1uF		25V
C153	1-163-006-11	CERAMIC CHIP 560PF	10%	50V
C154	1-164-161-11	CERAMIC CHIP 0.0022uF	10%	100V
C155	1-163-023-00	CERAMIC CHIP 0.015uF	5%	50V
C171	1-163-038-00	CERAMIC CHIP 0.1uF		25V
C172	1-163-038-00	CERAMIC CHIP 0.1uF		25V
C173	1-163-038-00	CERAMIC CHIP 0.1uF		25V
C174	1-163-038-00	CERAMIC CHIP 0.1uF		25V

Ref. No.	Part No.	Description			Remark
		< CONNECTOR >			
CN101	1-568-796-11	SOCKET, CONNECTOR 22P			
CN102	1-568-795-11	SOCKET, CONNECTOR 12P			
		< IC >			
IC101	8-752-037-31	IC CXA1372Q			
IC102	8-759-821-94	IC LA6532M			
		< JUMPER RESISTOR >			
J101	1-216-295-00	METAL CHIP 0	5%	1/10W	
J102	1-216-295-00	METAL CHIP 0	5%	1/10W	
		< TRANSISTOR >			
Q101	8-729-901-01	TRANSISTOR DTC144EK			
		< RESISTOR >			
R101	1-216-097-00	METAL CHIP 100K	5%	1/10W	
R102	1-216-095-00	METAL CHIP 82K	5%	1/10W	
R103	1-216-091-00	METAL CHIP 56K	5%	1/10W	
R104	1-216-099-00	METAL CHIP 120K	5%	1/10W	
R105	1-216-069-00	METAL CHIP 6.8K	5%	1/10W	
R106	1-216-061-00	METAL CHIP 3.3K	5%	1/10W	
R107	1-216-114-00	METAL GLAZE 510K	5%	1/10W	
R108	1-216-105-00	METAL CHIP 220K	5%	1/10W	
R109	1-216-061-00	METAL CHIP 3.3K	5%	1/10W	
R110	1-216-049-00	METAL CHIP 1K	5%	1/10W	
R111	1-216-049-00	METAL CHIP 1K	5%	1/10W	
R112	1-216-083-00	METAL CHIP 27K	5%	1/10W	
R113	1-216-071-00	METAL CHIP 8.2K	5%	1/10W	
R114	1-216-105-00	METAL CHIP 220K	5%	1/10W	
R152	1-216-073-00	METAL CHIP 10K	5%	1/10W	
R153	1-216-085-00	METAL CHIP 33K	5%	1/10W	

BD CAPACTOR DISPLAY

Ref. No.	Part No.	Description			Remark
R154	1-216-085-00	METAL CHIP	33K	5%	1/10W
R155	1-216-093-00	METAL CHIP	68K	5%	1/10W
R156	1-216-081-00	METAL CHIP	22K	5%	1/10W
R157	1-216-079-00	METAL CHIP	18K	5%	1/10W
R158	1-216-079-00	METAL CHIP	18K	5%	1/10W
R159	1-216-079-00	METAL CHIP	18K	5%	1/10W
R160	1-216-049-00	METAL CHIP	1K	5%	1/10W
R171	1-216-001-00	METAL CHIP	10	5%	1/10W
R172	1-216-001-00	METAL CHIP	10	5%	1/10W
R173	1-216-001-00	METAL CHIP	10	5%	1/10W
R174	1-216-001-00	METAL CHIP	10	5%	1/10W
		< VARIABLE RESISTOR >			
RV101	1-238-016-11	RES. ADJ. CARBON 10K			
RV102	1-238-016-11	RES. ADJ. CARBON 10K			
		< SWITCH >			
S101	1-572-085-11	SWITCH, LEAF (LIMIT IN)			
**********					
*	1-634-484-13	CAPACTOR BOARD			
		**********			
		< CAPACITOR >			
⚠C871	1-124-618-11	ELECT	2200uF	20%	35V
⚠C872	1-124-618-11	ELECT	2200uF	20%	35V
C873	1-124-120-11	ELECT	220uF	20%	25V
C8001	1-161-379-00	CERAMIC	0.01uF	20%	25V(G, IT)
		< CONNECTOR >			
* CN801	1-508-694-00	CONNECTOR PIN 8P			
* CN802	1-564-706-11	PIN, CONNECTOR (SMALL TYPE) 4P			
		< DIODE >			
D801	8-719-912-20	DIODE 1SS120			
		< TRANSISTOR >			
Q801	8-729-900-89	TRANSISTOR DTC144ES			
		< RESISTOR >			
R856	1-249-417-11	CARBON	1K	5%	1/4W
R871	1-249-429-11	CARBON	10K	5%	1/4W
R872	1-249-437-11	CARBON	47K	5%	1/4W
**********					
*	A-4341-540-A	DISPLAY BOARD, COMPLETE (AEP, UK)			
*	A-4341-541-A	DISPLAY BOARD, COMPLETE (G)			
*	A-4341-543-A	DISPLAY BOARD, COMPLETE (IT)			
		**********			

Ref. No.	Part No.	Description			Remark
*	1-533-213-31	HOLDER, FUSE			
*	4-932-810-11	CUSHION (FL)			
		< CAPACITOR >			
C502	1-162-294-31	CERAMIC	0.001uF	10%	50V
C504	1-162-289-31	CERAMIC	390PF	10%	50V
C505	1-161-329-00	CERAMIC	0.0068uF	30%	16V
C506	1-162-294-31	CERAMIC	0.001uF	10%	50V
C507	1-161-494-00	CERAMIC	0.022uF		25V
C508	1-161-327-00	CERAMIC	0.0033uF	30%	16V
C509	1-164-159-11	CERAMIC	0.1uF		50V
C510	1-162-306-11	CERAMIC	0.01uF	20%	16V
C511	1-124-464-11	ELECT	0.22uF	20%	50V
C512	1-161-494-00	CERAMIC	0.022uF		25V
C513	1-126-160-11	ELECT	1uF	20%	50V
C514	1-136-163-00	FILM	0.068uF	5%	50V
C515	1-136-163-00	FILM	0.068uF	5%	50V
C539	1-162-282-31	CERAMIC	100PF	10%	50V
C540	1-162-282-31	CERAMIC	100PF	10%	50V
C541	1-162-282-31	CERAMIC	100PF	10%	50V
C542	1-162-294-31	CERAMIC	0.001uF	10%	50V
C543	1-162-294-31	CERAMIC	0.001uF	10%	50V
C544	1-162-294-31	CERAMIC	0.001uF	10%	50V
C545	1-162-294-31	CERAMIC	0.001uF	10%	50V
C546	1-164-159-11	CERAMIC	0.1uF		50V
C547	1-162-294-31	CERAMIC	0.001uF	10%	50V
C548	1-164-159-11	CERAMIC	0.1uF		50V
C549	1-164-159-11	CERAMIC	0.1uF		50V
C552	1-162-294-31	CERAMIC	0.001uF	10%	50V
C554	1-162-289-31	CERAMIC	390PF	10%	50V
C555	1-161-329-00	CERAMIC	0.0068uF	30%	16V
C556	1-162-294-31	CERAMIC	0.001uF	10%	50V
C557	1-161-494-00	CERAMIC	0.022uF		25V
C558	1-161-327-00	CERAMIC	0.0033uF	30%	16V
C559	1-164-159-11	CERAMIC	0.1uF		50V
C560	1-162-306-11	CERAMIC	0.01uF	20%	16V
C561	1-124-464-11	ELECT	0.22uF	20%	50V
C562	1-161-494-00	CERAMIC	0.022uF		25V
C563	1-126-160-11	ELECT	1uF	20%	50V
C564	1-136-163-00	FILM	0.068uF	5%	50V
C565	1-136-163-00	FILM	0.068uF	5%	50V
C566	1-162-306-11	CERAMIC	0.01uF	20%	16V
C569	1-126-160-11	ELECT	1uF	20%	50V
C570	1-164-159-11	CERAMIC	0.1uF		50V
C571	1-126-157-11	ELECT	10uF	20%	16V
C572	1-126-157-11	ELECT	10uF	20%	16V
C573	1-126-163-11	ELECT	4.7uF	20%	50V
C574	1-126-157-11	ELECT	10uF	20%	16V
C592	1-162-197-31	CERAMIC	6.8PF	10%	50V

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

DISPLAY

Ref. No.	Part No.	Description			Remark
C593	1-162-197-31	CERAMIC	6.8PF	10%	50V
C594	1-102-947-00	CERAMIC	10PF	5%	50V
C595	1-102-947-00	CERAMIC	10PF	5%	50V
C597	1-126-163-11	ELECT	4.7uF	20%	50V
C599	1-136-173-00	FILM	0.47uF	5%	50V
C9001	1-161-379-00	CERAMIC	0.01uF	20%	25V (G, IT)
C9002	1-164-159-11	CERAMIC	0.1uF		50V (G, IT)
C9003	1-164-159-11	CERAMIC	0.1uF		50V (G, IT)
C9004	1-162-294-31	CERAMIC	0.001uF	10%	50V (G, IT)
C9005	1-162-294-31	CERAMIC	0.001uF	10%	50V (G, IT)
C9006	1-164-159-11	CERAMIC	0.1uF		50V (G, IT)
		< CONNECTOR >			
* CN501	1-569-156-11	SOCKET, CONNECTOR 10P			
* CN502	1-569-156-11	SOCKET, CONNECTOR 10P			
* CN503	1-509-931-11	SOCKET, CONNECTOR			
		< CONPOSITION CIRCUIT BLOCK >			
* CP503	1-233-216-11	COMPOSITION CIRCUIT BLOCK			
* CP504	1-233-216-11	COMPOSITION CIRCUIT BLOCK			
		< DIODE >			
D521	8-719-313-38	LED	SEL1210RM-LC05-CD (STAND)		
D522	8-719-313-39	LED	SEL1910DM-LC05-CD (DBFB)		
D523	8-719-313-39	LED	SEL1910DM-LC05-CD (S-SUR)		
D574	8-719-912-20	DIODE	1SS120		
D576	8-719-912-20	DIODE	1SS120		
D577	8-719-912-20	DIODE	1SS120		
D578	8-719-912-20	DIODE	1SS120		
D579	8-719-912-20	DIODE	1SS120		
D580	8-719-912-20	DIODE	1SS120		
D581	8-719-912-20	DIODE	1SS120		
D582	8-719-912-20	DIODE	1SS120		
D583	8-719-912-20	DIODE	1SS120		
D588	8-719-912-20	DIODE	1SS120 (EXCEPT IT)		
D598	8-719-001-21	DIODE	UZL-9H1		
		< FLUORESCENT INDICATOR >			
FLT501	1-519-577-11	INDICATOR TUBE, FLUORESCENT			
		< IC >			
IC501	8-759-630-99	IC	M5226FP		
IC502	8-759-634-50	IC	M5218AL		
IC505	8-759-153-84	IC	uPD75212ACW-273		
IC506	8-749-922-36	IC	GP1U50XB		
IC551	8-759-630-99	IC	M5226FP		

Ref. No.	Part No.	Description		Remark
		< TRANSISTOR >		
Q501	8-729-904-39	TRANSISTOR	DTC114TS	
Q551	8-729-904-39	TRANSISTOR	DTC114TS	
Q571	8-729-900-61	TRANSISTOR	DTA114ES	
Q572	8-729-900-61	TRANSISTOR	DTA114ES	
Q573	8-729-224-61	TRANSISTOR	2SK246-Y	
Q574	8-729-900-80	TRANSISTOR	DTC114ES	
Q575	8-729-900-80	TRANSISTOR	DTC114ES	
Q576	8-729-620-05	TRANSISTOR	2SC2603-EF	
		< RESISTOR >		
R500	1-249-414-11	CARBON	560 5%	1/4W
R501	1-247-903-00	CARBON	1M 5%	1/4W
R502	1-249-425-11	CARBON	4.7K 5%	1/4W
R503	1-249-441-11	CARBON	100K 5%	1/4W
R504	1-247-903-00	CARBON	1M 5%	1/4W
R505	1-249-419-11	CARBON	1.5K 5%	1/4W
R506	1-249-434-11	CARBON	27K 5%	1/4W
R507	1-247-903-00	CARBON	1M 5%	1/4W
R522	1-249-409-11	CARBON	220 5%	1/4W
R523	1-249-409-11	CARBON	220 5%	1/4W
R524	1-249-439-11	CARBON	68K 5%	1/4W
R525	1-249-417-11	CARBON	1K 5%	1/4W
R526	1-249-405-11	CARBON	100 5%	1/4W
R527	1-249-405-11	CARBON	100 5%	1/4W
R528	1-249-405-11	CARBON	100 5%	1/4W
R529	1-249-405-11	CARBON	100 5%	1/4W
R530	1-249-405-11	CARBON	100 5%	1/4W
R531	1-249-405-11	CARBON	100 5%	1/4W
R532	1-249-405-11	CARBON	100 5%	1/4W
R533	1-249-405-11	CARBON	100 5%	1/4W
R534	1-249-405-11	CARBON	100 5%	1/4W
R535	1-249-405-11	CARBON	100 5%	1/4W
R536	1-249-405-11	CARBON	100 5%	1/4W
R537	1-249-429-11	CARBON	10K 5%	1/4W
R538	1-249-405-11	CARBON	100 5%	1/4W
R551	1-247-903-00	CARBON	1M 5%	1/4W
R552	1-249-425-11	CARBON	4.7K 5%	1/4W
R553	1-249-441-11	CARBON	100K 5%	1/4W
R554	1-247-903-00	CARBON	1M 5%	1/4W
R555	1-249-419-11	CARBON	1.5K 5%	1/4W
R556	1-249-434-11	CARBON	27K 5%	1/4W
R557	1-247-903-00	CARBON	1M 5%	1/4W
R559	1-249-429-11	CARBON	10K 5%	1/4W
R564	1-247-887-00	CARBON	220K 5%	1/4W
R568	1-249-441-11	CARBON	100K 5%	1/4W
R569	1-249-429-11	CARBON	10K 5%	1/4W
R570	1-249-417-11	CARBON	1K 5%	1/4W

DISPLAY JACK

Ref. No.	Part No.	Description			Remark
R571	1-249-441-11	CARBON	100K	5%	1/4W
R572	1-247-891-00	CARBON	330K	5%	1/4W
R573	1-249-425-11	CARBON	4.7K	5%	1/4W
R574	1-249-441-11	CARBON	100K	5%	1/4W
R577	1-249-405-11	CARBON	100	5%	1/4W
R596	1-249-429-11	CARBON	10K	5%	1/4W
R598	1-249-411-11	CARBON	330	5%	1/4W
R2001	1-247-891-00	CARBON	330K	5%	1/4W
		< VARIABLE RESISTOR >			
RV501	1-238-457-11	RES, VAR, CARBON 250K/250K (12kHz)			
RV502	1-238-457-11	RES, VAR, CARBON 250K/250K (4kHz)			
RV503	1-238-457-11	RES, VAR, CARBON 250K/250K (1kHz)			
RV504	1-238-457-11	RES, VAR, CARBON 250K/250K (400Hz)			
RV505	1-238-457-11	RES, VAR, CARBON 250K/250K (100Hz)			
		< SWITCH >			
S501	1-572-184-11	SWITCH, KEYBOARD (TIMER CONTROL)			
S502	1-572-184-11	SWITCH, KEYBOARD (SLEEP)			
S503	1-572-184-11	SWITCH, KEYBOARD (TIMER SET)			
S504	1-572-184-11	SWITCH, KEYBOARD (CLOCK SET)			
S505	1-572-184-11	SWITCH, KEYBOARD (CLOCK DISPLAY)			
S506	1-572-184-11	SWITCH, KEYBOARD (POWER)			
S507	1-572-184-11	SWITCH, KEYBOARD (DBFB)			
S508	1-572-184-11	SWITCH, KEYBOARD (S-SUR)			
S509	1-572-184-11	SWITCH, KEYBOARD (TAPE)			
S510	1-572-184-11	SWITCH, KEYBOARD (CD)			
S511	1-572-184-11	SWITCH, KEYBOARD (TUNER)			
S512	1-572-184-11	SWITCH, KEYBOARD (PHONO)			
S513	1-572-184-11	SWITCH, KEYBOARD (BAND)			
S514	1-572-184-11	SWITCH, KEYBOARD (TUNING -)			
S515	1-572-184-11	SWITCH, KEYBOARD (TUNING +)			
S516	1-572-184-11	SWITCH, KEYBOARD (AUTO)			
S517	1-572-184-11	SWITCH, KEYBOARD (MEMORY)			
S518	1-572-184-11	SWITCH, KEYBOARD (ENTER)			
S519	1-572-184-11	SWITCH, KEYBOARD (NEXT)			
S520	1-572-184-11	SWITCH, KEYBOARD (SHIFT)			
S521	1-572-184-11	SWITCH, KEYBOARD (PRESET/TIMER -)			
S522	1-572-184-11	SWITCH, KEYBOARD (PRESET/TIMER +)			
		< VIBRATOR >			
X501	1-567-821-21	VIBRATOR, CRYSTAL (4.19MHz)			
X502	1-527-997-21	VIBRATOR, CRYSTAL (32kHz)			
**********					
*	1-634-485-13	JACK BOARD			
		**********			

Ref. No.	Part No.	Description			Remark
		< CAPACITOR >			
C401	1-162-282-31	CERAMIC	100PF	10%	50V (AEP, UK)
C401	1-162-294-31	CERAMIC	0.001uF	10%	50V (G, IT)
C402	1-162-282-31	CERAMIC	100PF	10%	50V
C403	1-162-290-31	CERAMIC	470PF	10%	50V (AEP, UK)
C451	1-162-282-31	CERAMIC	100PF	10%	50V (AEP, UK)
C451	1-162-294-31	CERAMIC	0.001uF	10%	50V (G, IT)
C452	1-162-282-31	CERAMIC	100PF	10%	50V
C453	1-162-290-31	CERAMIC	470PF	10%	50V (AEP, UK)
C471	1-162-294-31	CERAMIC	0.001uF	10%	50V
C472	1-162-294-31	CERAMIC	0.001uF	10%	50V
C473	1-162-294-31	CERAMIC	0.001uF	10%	50V
C474	1-162-215-31	CERAMIC	47PF	5%	50V
C475	1-164-159-11	CERAMIC	0.1uF		50V
C491	1-164-159-11	CERAMIC	0.1uF		50V
C492	1-164-159-11	CERAMIC	0.1uF		50V
C493	1-164-159-11	CERAMIC	0.1uF		50V
C494	1-164-159-11	CERAMIC	0.1uF		50V
C4001	1-162-306-11	CERAMIC	0.01uF	20%	16V (G, IT)
C4002	1-162-306-11	CERAMIC	0.01uF	20%	16V (G, IT)
		< CONNECTOR >			
* CN401	1-568-851-11	SOCKET, CONNECTOR 8P			
		< IC >			
IC401	8-759-634-50	IC M5218AL			
IC451	8-759-634-50	IC M5218AL			
		< JACK >			
J401	1-562-837-21	JACK (MIX MIC)			
J451	1-562-837-21	JACK (HEADPHONES)			
		< RESISTOR >			
R401	1-249-417-11	CARBON	1K	5%	1/4W
R402	1-249-441-11	CARBON	100K	5%	1/4W
R403	1-249-436-11	CARBON	39K	5%	1/4W
R404	1-249-425-11	CARBON	4.7K	5%	1/4W
R405	1-249-401-11	CARBON	47	5%	1/4W
R406	1-249-429-11	CARBON	10K	5%	1/4W
R451	1-249-417-11	CARBON	1K	5%	1/4W
R452	1-249-441-11	CARBON	100K	5%	1/4W
R453	1-249-436-11	CARBON	39K	5%	1/4W
R454	1-249-425-11	CARBON	4.7K	5%	1/4W
R455	1-249-401-11	CARBON	47	5%	1/4W
R456	1-249-429-11	CARBON	10K	5%	1/4W
R471	1-249-429-11	CARBON	10K	5%	1/4W
R472	1-249-411-11	CARBON	330	5%	1/4W
R473	1-249-441-11	CARBON	100K	5%	1/4W

JACK | JUMPER | LEAF SW (A) | LEAF SW (B) | LOADING | MAIN

Ref. No.	Part No.	Description			Remark
R474	1-249-408-11	CARBON	180	5% 1/4W	
R475	1-249-441-11	CARBON	100K	5% 1/4W	
**********					
*	1-634-475-11	JUMPER BOARD			
		**********			
		< CONNECTOR >			
* CN401	1-569-418-11	PIN, CONNECTOR 13P			
* CN402	1-568-856-11	SOCKET, CONNECTOR 13P			
		< RESISTOR >			
R418	1-249-429-11	CARBON	10K	5% 1/4W	
R468	1-249-429-11	CARBON	10K	5% 1/4W	
**********					
*	1-624-148-11	LEAF SW (A) BOARD			
		**********			
	3-343-419-01	HOLDER (S SENSER A)			
		< CONNECTOR >			
CNP11A	1-564-501-11	PIN, CONNECTOR 8P			
		< DIODE >			
D11A	8-719-107-94	DIODE 1SS202-1			
		< PHOTO SENSOR >			
Q12A	8-719-939-23	PHOTO SENSOR GP-2S09-C			
		< RESISTOR >			
R14A	1-249-408-11	CARBON	180	5% 1/4W	
		< SWITCH >			
S11A	1-571-281-21	SWITCH, LEAF (HALF)			
S14A	1-571-281-21	SWITCH, LEAF (Cr02)			
**********					
*	1-624-148-11	LEAF SW (B) BOARD			
		**********			
	3-343-419-01	HOLDER (S SENSER A)			
		< CONNECTOR >			
CNP11B	1-506-615-11	PIN, CONNECTOR 9P			
		< DIODE >			
D11B	8-719-107-94	DIODE 1SS202-1			

Ref. No.	Part No.	Description			Remark
		< PHOTO SENSOR >			
Q12B	8-719-939-23	PHOTO SENSOR GP-2S09-C			
		< RESISTOR >			
R11B	1-247-834-11	CARBON	1.3K	5% 1/4W	
R12B	1-249-414-11	CARBON	560	5% 1/4W	
R13B	1-247-818-11	CARBON	300	5% 1/4W	
R14B	1-249-408-11	CARBON	180	5% 1/4W	
		< SWITCH >			
S11B	1-571-281-21	SWITCH, LEAF (HALF)			
S12B	1-571-281-21	SWITCH, LEAF (REC (A))			
S13B	1-571-281-21	SWITCH, LEAF (REC (B))			
S14B	1-571-281-21	SWITCH, LEAF (Cr02)			
S15B	1-571-281-21	SWITCH, LEAF			
**********					
*	1-634-461-11	LOADING BOARD			
		**********			
		< CONNECTOR >			
* CN291	1-564-498-11	PIN, CONNECTOR 5P			
		< SWITCH >			
S291	1-571-924-11	SWITCH, LEAF (LOAD OUT)			
S292	1-571-924-11	SWITCH, LEAF (LOAD IN)			
**********					
*	A-4345-098-A	MAIN BOARD, COMPLETE (AEP, UK)			
*	A-4345-099-A	MAIN BOARD, COMPLETE (G, IT)			
		**********			
*	4-925-530-01	PLATE, GROUND			
		< CAPACITOR >			
C1	1-162-195-31	CERAMIC	4.7PF	10% 50V	(AEP, UK)
C2	1-124-907-11	ELECT	10uF	20% 50V	
C3	1-161-379-00	CERAMIC	0.01uF	20% 25V	
C4	1-162-294-31	CERAMIC	0.001uF	10% 50V	
C5	1-161-379-00	CERAMIC	0.01uF	20% 25V	
C7	1-164-159-11	CERAMIC	0.1uF	50V	
C8	1-161-379-00	CERAMIC	0.01uF	20% 25V	
C9	1-102-120-00	CERAMIC	0.0018uF	10% 50V	
C10	1-161-374-11	CERAMIC	0.0015uF	20% 50V	
C51	1-164-056-11	CERAMIC	27PF	5% 50V	
C52	1-164-056-11	CERAMIC	27PF	5% 50V	
C53	1-161-379-00	CERAMIC	0.01uF	20% 25V	
C54	1-161-379-00	CERAMIC	0.01uF	20% 25V	
C55	1-161-379-00	CERAMIC	0.01uF	20% 25V	

Ref. No.	Part No.	Description			Remark
C56	1-161-379-00	CERAMIC	0.01uF	20%	25V
C57	1-161-379-00	CERAMIC	0.01uF	20%	25V
C58	1-124-907-11	ELECT	10uF	20%	50V
C59	1-161-379-00	CERAMIC	0.01uF	20%	25V
C60	1-124-477-11	ELECT	47uF	20%	25V
C61	1-124-925-11	ELECT	2.2uF	20%	100V
C62	1-136-153-00	FILM	0.01uF	5%	50V
C63	1-124-463-00	ELECT	0.1uF	20%	50V (AEP, UK)
C64	1-124-902-00	ELECT	0.47uF	20%	50V
C65	1-136-157-00	FILM	0.022uF	5%	50V
C66	1-136-157-00	FILM	0.022uF	5%	50V
C81	1-161-379-00	CERAMIC	0.01uF	20%	25V
C82	1-124-472-11	ELECT	470uF	20%	10V
C83	1-161-379-00	CERAMIC	0.01uF	20%	25V
C84	1-124-907-11	ELECT	10uF	20%	50V
C85	1-161-379-00	CERAMIC	0.01uF	20%	25V
C86	1-162-282-31	CERAMIC	100PF	10%	50V
C87	1-161-379-00	CERAMIC	0.01uF	20%	25V
C88	1-124-907-11	ELECT	10uF	20%	50V
C89	1-161-379-00	CERAMIC	0.01uF	20%	25V
C90	1-124-477-11	ELECT	47uF	20%	25V
C91	1-162-294-31	CERAMIC	0.001uF	10%	50V
C92	1-162-294-31	CERAMIC	0.001uF	10%	50V
C93	1-161-375-00	CERAMIC	0.0022uF	20%	50V
C94	1-161-375-00	CERAMIC	0.0022uF	20%	50V
C95	1-124-903-11	ELECT	1uF	20%	50V
C96	1-124-903-11	ELECT	1uF	20%	50V
C97	1-124-903-11	ELECT	1uF	20%	50V
C98	1-124-903-11	ELECT	1uF	20%	50V
C99	1-136-154-00	FILM	0.012uF	5%	50V
C100	1-136-154-00	FILM	0.012uF	5%	50V
C101	1-124-907-11	ELECT	10uF	20%	50V
C102	1-161-379-00	CERAMIC	0.01uF	20%	25V
C103	1-124-463-00	ELECT	0.1uF	20%	50V
C104	1-124-903-11	ELECT	1uF	20%	50V
C105	1-124-903-11	ELECT	1uF	20%	50V
C106	1-124-903-11	ELECT	1uF	20%	50V
C107	1-162-282-31	CERAMIC	100PF	10%	50V (G, IT)
C108	1-162-211-31	CERAMIC	33PF	5%	50V (AEP, UK)
C108	1-162-291-31	CERAMIC	560PF	10%	50V (G, IT)
C109	1-161-379-00	CERAMIC	0.01uF	20%	25V
C110	1-161-379-00	CERAMIC	0.01uF	20%	25V
C111	1-124-925-11	ELECT	2.2uF	20%	100V
C112	1-161-379-00	CERAMIC	0.01uF	20%	25V
C113	1-161-379-00	CERAMIC	0.01uF	20%	25V (G, IT)
C114	1-161-379-00	CERAMIC	0.01uF	20%	25V
C116	1-161-379-00	CERAMIC	0.01uF	20%	25V
C117	1-161-379-00	CERAMIC	0.01uF	20%	25V

Ref. No.	Part No.	Description			Remark
C199	1-161-379-00	CERAMIC	0.01uF	20%	25V
C201	1-164-159-11	CERAMIC	0.1uF		50V
C203	1-164-159-11	CERAMIC	0.1uF		50V
C211	1-136-161-00	FILM	0.047uF	5%	50V
C212	1-161-374-11	CERAMIC	0.0015uF	20%	50V
C213	1-161-379-00	CERAMIC	0.01uF	20%	25V
C214	1-124-902-00	ELECT	0.47uF	20%	50V
C215	1-164-159-11	CERAMIC	0.1uF		50V
C221	1-162-207-31	CERAMIC	22PF	5%	50V
C222	1-162-207-31	CERAMIC	22PF	5%	50V
C223	1-124-443-00	ELECT	100uF	20%	10V
C225	1-136-165-00	FILM	0.1uF	5%	50V
C229	1-124-907-11	ELECT	10uF	20%	50V
C231	1-161-374-11	CERAMIC	0.0015uF	20%	50V
C232	1-161-374-11	CERAMIC	0.0015uF	20%	50V
C233	1-162-286-31	CERAMIC	220PF	10%	50V
C234	1-162-286-31	CERAMIC	220PF	10%	50V
C235	1-124-903-11	ELECT	1uF	20%	50V
C236	1-124-903-11	ELECT	1uF	20%	50V
C237	1-124-907-11	ELECT	10uF	20%	50V
C238	1-124-907-11	ELECT	10uF	20%	50V
C249	1-126-176-11	ELECT	220uF	20%	10V
C600	1-162-294-31	CERAMIC	0.001uF	10%	50V
C601	1-136-161-00	FILM	0.047uF	5%	50V
C602	1-124-925-11	ELECT	2.2uF	20%	100V
C603	1-124-925-11	ELECT	2.2uF	20%	100V
C604	1-162-294-31	CERAMIC	0.001uF	10%	50V
C611	1-162-217-31	CERAMIC	56PF	5%	50V
C612	1-136-157-00	FILM	0.022uF	5%	50V
C613	1-124-925-11	ELECT	2.2uF	20%	100V
C614	1-124-925-11	ELECT	2.2uF	20%	100V
C615	1-124-443-00	ELECT	100uF	20%	10V
C622	1-164-159-11	CERAMIC	0.1uF		50V
C651	1-136-161-00	FILM	0.047uF	5%	50V
C652	1-124-925-11	ELECT	2.2uF	20%	100V
C653	1-124-925-11	ELECT	2.2uF	20%	100V
C654	1-162-294-31	CERAMIC	0.001uF	10%	50V
C656	1-161-379-00	CERAMIC	0.01uF	20%	25V
C662	1-126-153-11	ELECT	22uF	20%	6.3V
C663	1-124-925-11	ELECT	2.2uF	20%	100V
C671	1-164-159-11	CERAMIC	0.1uF		50V
C672	1-136-173-00	FILM	0.47uF	5%	50V
C673	1-161-379-00	CERAMIC	0.01uF	20%	25V
C674	1-164-159-11	CERAMIC	0.1uF		50V
C675	1-164-159-11	CERAMIC	0.1uF		50V
C677	1-164-159-11	CERAMIC	0.1uF		50V
C698	1-124-907-11	ELECT	10uF	20%	50V
C699	1-124-478-11	ELECT	100uF	20%	25V

MAIN

Ref. No.	Part No.	Description			Remark
C701	1-162-290-31	CERAMIC	470PF	10%	50V
C702	1-162-290-31	CERAMIC	470PF	10%	50V
C703	1-124-254-00	ELECT	0.68uF	20%	50V
C704	1-124-907-11	ELECT	10uF	20%	50V
C705	1-124-907-11	ELECT	10uF	20%	50V
C706	1-124-902-00	ELECT	0.47uF	20%	50V
C730	1-162-282-31	CERAMIC	100PF	10%	50V (AEP, UK)
C730	1-162-294-31	CERAMIC	0.001uF	10%	50V (G, IT)
C731	1-162-282-31	CERAMIC	100PF	10%	50V
C732	1-162-282-31	CERAMIC	100PF	10%	50V
C733	1-130-474-00	MYLAR	0.0018uF	5%	50V
C734	1-130-480-00	MYLAR	0.0056uF	5%	50V
C735	1-124-907-11	ELECT	10uF	20%	50V
C736	1-124-903-11	ELECT	1uF	20%	50V
C743	1-164-159-11	CERAMIC	0.1uF		50V
C751	1-162-290-31	CERAMIC	470PF	10%	50V
C752	1-162-290-31	CERAMIC	470PF	10%	50V
C753	1-124-254-00	ELECT	0.68uF	20%	50V
C754	1-124-907-11	ELECT	10uF	20%	50V
C755	1-124-907-11	ELECT	10uF	20%	50V
C756	1-124-902-00	ELECT	0.47uF	20%	50V
C780	1-162-282-31	CERAMIC	100PF	10%	50V (AEP, UK)
C780	1-162-294-31	CERAMIC	0.001uF	10%	50V (G, IT)
C781	1-162-282-31	CERAMIC	100PF	10%	50V
C782	1-162-282-31	CERAMIC	100PF	10%	50V
C783	1-130-474-00	MYLAR	0.0018uF	5%	50V
C784	1-130-480-00	MYLAR	0.0056uF	5%	50V
C785	1-124-907-11	ELECT	10uF	20%	50V
C786	1-124-903-11	ELECT	1uF	20%	50V
C791	1-124-907-11	ELECT	10uF	20%	50V
C792	1-161-379-00	CERAMIC	0.01uF	20%	25V
C793	1-124-907-11	ELECT	10uF	20%	50V
C794	1-161-379-00	CERAMIC	0.01uF	20%	25V
C797	1-161-379-00	CERAMIC	0.01uF	20%	25V
C799	1-130-471-00	MYLAR	0.001uF	5%	50V
C996	1-126-163-11	ELECT	4.7uF	20%	50V
C997	1-124-903-11	ELECT	1uF	20%	50V
C998	1-126-154-11	ELECT	47uF	20%	6.3V
C999	1-124-907-11	ELECT	10uF	20%	50V
C1001	1-162-282-31	CERAMIC	100PF	10%	50V (G, IT)
C2001	1-161-379-00	CERAMIC	0.01uF	20%	25V (G, IT)
C798A	1-161-379-00	CERAMIC	0.01uF	20%	25V
C798B	1-130-475-00	MYLAR	0.0022uF	5%	50V
		< FILTER >			
CF1	1-567-389-11	FILTER, CERAMIC			
CF2	1-567-389-11	FILTER, CERAMIC (10.7MHz)			(G, IT)
CF81	1-567-389-11	FILTER, CERAMIC			

Ref. No.	Part No.	Description	Remark
		< CONNECTOR >	
* CN201	1-569-155-11	PLUG, CONNECTOR 10P	
CN202	1-568-802-11	SOCKET, CONNECTOR 19P	
* CN253	1-564-339-71	PIN, CONNECTOR 5P	
* CN601	1-569-511-11	SOCKET, CONNECTOR 14P	
* CN701	1-569-155-11	PLUG, CONNECTOR 10P	
* CN702	1-569-155-11	PLUG, CONNECTOR 10P	
* CN703	1-568-832-11	SOCKET, CONNECTOR 13P	
* CN704	1-568-834-11	SOCKET, CONNECTOR 15P	
* CN705	1-564-704-11	PIN, CONNECTOR (SMALL TYPE) 2P	
* CN706	1-564-336-00	PIN, CONNECTOR 2P	
		< CONPOSITION CIRCUIT BLOCK >	
* CP201	1-233-224-11	COMPOSITION CIRCUIT BLOCK (100P×5)	
		< DIODE >	
D201	8-719-010-34	DIODE UZ-4.7BSC	
D205	8-719-912-20	DIODE 1SS120	
D589	8-719-912-20	DIODE 1SS120 (IT)	
D601	8-719-912-20	DIODE 1SS120	
D602	8-719-200-82	DIODE 11ES2	
D603	8-719-200-82	DIODE 11ES2	
D604	8-719-912-20	DIODE 1SS120	
D605	8-719-200-82	DIODE 11ES2	
D606	8-719-010-15	DIODE UZ-3.0BS	
D701	8-719-933-48	DIODE HZS7B3L	
D702	8-719-933-48	DIODE HZS7B3L	
D703	8-719-933-36	DIODE HZS6B1L	
D741	8-719-912-20	DIODE 1SS120	
D742	8-719-912-20	DIODE 1SS120	
D743	8-719-912-20	DIODE 1SS120	
D744	8-719-912-20	DIODE 1SS120	
D745	8-719-912-20	DIODE 1SS120	
D746	8-719-912-20	DIODE 1SS120	
		< CONNECTOR >	
* DA11A	1-564-342-11	PIN, CONNECTOR 8P	
* DA11B	1-506-503-61	PIN, CONNECTOR 9P	
* DR12A	1-564-337-00	PIN, CONNECTOR 3P	
* DR12B	1-564-337-61	PIN, CONNECTOR 3P	
* DR82A	1-564-339-00	PIN, CONNECTOR 5P	
* DR82B	1-564-339-61	PIN, CONNECTOR 5P	
* DR83B	1-564-338-61	PIN, CONNECTOR 4P	
		< COIL >	
⚠FB801	1-410-858-11	INDUCTOR 0UH	(G, IT)
⚠FB802	1-410-858-11	INDUCTOR 0UH	(G, IT)

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

MAIN

Ref. No.	Part No.	Description	Remark
		< FRONTEND >	
FE1	1-465-673-11	FRONTEND (2 BAND) (AEP, UK)	
FE1	1-465-007-11	FRONT END (FM) (4 GANG) (G, IT)	
FE2	1-236-462-11	ENCAPSULATED COMPONENT	
FE3	1-236-463-11	ENCAPSULATED COMPONENT	
FL81	1-236-465-11	ENCAPSULATED COMPONENT (G, IT)	
		< IC >	
IC51	8-759-239-29	IC TC9217P	
IC81	8-759-821-45	IC LA1851N	
IC201	8-759-150-19	IC uPD75112CW-064	
IC202	8-752-335-15	IC CXD2500Q	
IC221	8-752-337-09	IC CXD2554P	
IC222	8-759-990-13	IC TDA1543A	
IC223	8-759-634-51	IC M5218AP	
IC253	8-759-633-65	IC M54641L	
IC601	8-759-152-31	IC uPD4053BC-A	
IC602	8-752-038-00	IC CXA1298AP	
IC603	8-759-634-50	IC M5218AL	
IC604	8-759-632-54	IC M50964-212SP	
IC701	8-752-034-26	IC CXA1101P	
IC702	8-759-634-50	IC M5218AL	
IC703	8-759-152-32	IC uPD4066BC-A	
IC704	8-759-634-50	IC M5218AL	
IC705	8-759-630-42	IC M4052BPK	
IC706	8-759-605-16	IC M51953BL	
IC999	8-759-821-93	IC LA5601	
		< IFT >	
IFT81	1-404-853-11	TRANSFORMER, IF (CERAMIC FILTER)	
IFT82	1-404-807-11	TRANSFORMER, DISCRIMINATOR	
		< JACK >	
J701	1-569-181-11	JACK, PIN 2P (PHONO)	
		< COIL >	
L1	1-408-425-00	INDUCTOR 220uH	
L81	1-408-399-00	INDUCTOR 1.5uH	
L83	1-410-489-11	INDUCTOR 390uH	
L1001	1-410-521-11	INDUCTOR 100uH (G, IT)	
		< FILTER >	
LPF81	1-235-164-00	FILTER, LOW PASS	
LPF82	1-235-164-00	FILTER, LOW PASS	
		< TRANSISTOR >	
Q1	8-729-620-19	TRANSISTOR 2SC2724-CD	
Q2	8-729-620-19	TRANSISTOR 2SC2724-CD (G, IT)	
Q3	8-729-900-80	TRANSISTOR DTC114ES	
Q4	8-729-900-61	TRANSISTOR DTA114ES	
Q5	8-729-900-80	TRANSISTOR DTC114ES	
Q6	8-729-900-80	TRANSISTOR DTC114ES	
Q7	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q8	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q9	8-729-900-80	TRANSISTOR DTC114ES	
Q10	8-729-900-80	TRANSISTOR DTC114ES (AEP, UK)	
Q51	8-729-202-67	TRANSISTOR 2SK246-GR3	
Q52	8-729-201-84	TRANSISTOR 2SC3112-B	
Q53	8-729-202-67	TRANSISTOR 2SK246-GR3	
Q54	8-729-201-84	TRANSISTOR 2SC3112-B	
Q101	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q102	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q103	8-729-900-80	TRANSISTOR DTC114ES	
Q201	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q231	8-729-141-26	TRANSISTOR 2SC3622A-LK	
Q232	8-729-141-26	TRANSISTOR 2SC3622A-LK	
Q233	8-729-900-65	TRANSISTOR DTA144ES	
Q234	8-729-900-80	TRANSISTOR DTC114ES	
Q252	8-729-900-80	TRANSISTOR DTC114ES	
Q253	8-729-900-80	TRANSISTOR DTC114ES	
Q601	8-729-900-61	TRANSISTOR DTA114ES	
Q602	8-729-900-61	TRANSISTOR DTA114ES	
Q603	8-729-900-61	TRANSISTOR DTA114ES	
Q604	8-729-900-61	TRANSISTOR DTA114ES	
Q605	8-729-900-61	TRANSISTOR DTA114ES	
Q606	8-729-900-61	TRANSISTOR DTA114ES	
Q607	8-729-900-61	TRANSISTOR DTA114ES	
Q608	8-729-801-84	TRANSISTOR 2SB1013-4	
Q609	8-729-801-84	TRANSISTOR 2SB1013-4	
Q610	8-729-801-84	TRANSISTOR 2SB1013-4	
Q611	8-729-801-84	TRANSISTOR 2SB1013-4	
Q612	8-729-801-84	TRANSISTOR 2SB1013-4	
Q613	8-729-900-80	TRANSISTOR DTC114ES	
Q614	8-729-900-80	TRANSISTOR DTC114ES	
Q615	8-729-904-39	TRANSISTOR DTC114TS	
Q616	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q617	8-729-900-80	TRANSISTOR DTC114ES	
Q701	8-729-904-39	TRANSISTOR DTC114TS	
Q741	8-729-900-89	TRANSISTOR DTC144ES	
Q742	8-729-900-89	TRANSISTOR DTC144ES	
Q751	8-729-904-39	TRANSISTOR DTC114TS	
Q781	8-729-900-61	TRANSISTOR DTA114ES	
Q782	8-729-900-61	TRANSISTOR DTA114ES	
Q791	8-729-111-29	TRANSISTOR 2SD1616A-K	
Q792	8-729-920-98	TRANSISTOR 2SD1761-EF	
Q794	8-729-900-61	TRANSISTOR DTA114ES	

MAIN

Ref. No.	Part No.	Description			Remark
Q999	8-729-900-80	TRANSISTOR DTC114ES			
		< RESISTOR >			
R1	1-249-411-11	CARBON	330	5%	1/4W
R2	1-249-411-11	CARBON	330	5%	1/4W (AEP, UK)
R2	1-249-393-11	CARBON	10	5%	1/4W (G, IT)
R3	1-247-891-00	CARBON	330K	5%	1/4W
R4	1-249-411-11	CARBON	330	5%	1/4W
R5	1-247-891-00	CARBON	330K	5%	1/4W (G, IT)
R6	1-249-411-11	CARBON	330	5%	1/4W (G, IT)
R7	1-249-405-11	CARBON	100	5%	1/4W
R8	1-249-441-11	CARBON	100K	5%	1/4W
R9	1-249-437-11	CARBON	47K	5%	1/4W
R10	1-249-437-11	CARBON	47K	5%	1/4W (G, IT)
R10	1-249-425-11	CARBON	4.7K	5%	1/4W (AEP, UK)
R11	1-249-421-11	CARBON	2.2K	5%	1/4W
R12	1-249-421-11	CARBON	2.2K	5%	1/4W
R13	1-249-433-11	CARBON	22K	5%	1/4W
R14	1-249-432-11	CARBON	18K	5%	1/4W
R15	1-247-903-00	CARBON	1M	5%	1/4W
R20	1-249-425-11	CARBON	4.7K	5%	1/4W
R50	1-249-441-11	CARBON	100K	5%	1/4W
R51	1-249-417-11	CARBON	1K	5%	1/4W
R52	1-249-417-11	CARBON	1K	5%	1/4W
R53	1-249-441-11	CARBON	100K	5%	1/4W
R54	1-249-417-11	CARBON	1K	5%	1/4W
R55	1-249-425-11	CARBON	4.7K	5%	1/4W
R56	1-249-405-11	CARBON	100	5%	1/4W
R57	1-249-401-11	CARBON	47	5%	1/4W
R58	1-249-423-11	CARBON	3.3K	5%	1/4W
R59	1-249-414-11	CARBON	560	5%	1/4W
R60	1-249-417-11	CARBON	1K	5%	1/4W
R61	1-249-410-11	CARBON	270	5%	1/4W
R62	1-249-418-11	CARBON	1.2K	5%	1/4W
R63	1-249-421-11	CARBON	2.2K	5%	1/4W
R64	1-249-425-11	CARBON	4.7K	5%	1/4W
R65	1-249-425-11	CARBON	4.7K	5%	1/4W
R66	1-249-405-11	CARBON	100	5%	1/4W (AEP, UK)
R67	1-249-423-11	CARBON	3.3K	5%	1/4W
R68	1-249-414-11	CARBON	560	5%	1/4W
R69	1-249-417-11	CARBON	1K	5%	1/4W
R70	1-249-410-11	CARBON	270	5%	1/4W
R71	1-249-433-11	CARBON	22K	5%	1/4W
R72	1-249-421-11	CARBON	2.2K	5%	1/4W
R73	1-249-425-11	CARBON	4.7K	5%	1/4W
R74	1-249-425-11	CARBON	4.7K	5%	1/4W
R76	1-249-393-11	CARBON	10	5%	1/4W
R81	1-249-433-11	CARBON	22K	5%	1/4W

Ref. No.	Part No.	Description			Remark
R82	1-249-417-11	CARBON	1K	5%	1/4W
R83	1-249-399-11	CARBON	33	5%	1/4W
R84	1-249-429-11	CARBON	10K	5%	1/4W
R85	1-249-429-11	CARBON	10K	5%	1/4W
R86	1-249-437-11	CARBON	47K	5%	1/4W
R87	1-249-409-11	CARBON	220	5%	1/4W
R88	1-249-429-11	CARBON	10K	5%	1/4W
R89	1-249-429-11	CARBON	10K	5%	1/4W
R90	1-249-421-11	CARBON	2.2K	5%	1/4W
R91	1-249-421-11	CARBON	2.2K	5%	1/4W
R92	1-247-891-00	CARBON	330K	5%	1/4W
R93	1-247-891-00	CARBON	330K	5%	1/4W
R94	1-249-417-11	CARBON	1K	5%	1/4W
R95	1-249-417-11	CARBON	1K	5%	1/4W
R96	1-249-425-11	CARBON	4.7K	5%	1/4W
R97	1-249-425-11	CARBON	4.7K	5%	1/4W
R98	1-249-404-00	CARBON	82	5%	1/4W
R99	1-249-417-11	CARBON	1K	5%	1/4W (AEP, UK)
R99	1-249-420-11	CARBON	1.8K	5%	1/4W (G, IT)
R100	1-247-848-11	CARBON	5.1K	5%	1/4W
R102	1-249-430-11	CARBON	12K	5%	1/4W (AEP, UK)
R103	1-249-428-11	CARBON	8.2K	5%	1/4W
R104	1-249-435-11	CARBON	33K	5%	1/4W
R105	1-249-431-11	CARBON	15K	5%	1/4W
R106	1-249-417-11	CARBON	1K	5%	1/4W
R107	1-249-430-11	CARBON	12K	5%	1/4W (G, IT)
R201	1-249-441-11	CARBON	100K	5%	1/4W
R202	1-249-441-11	CARBON	100K	5%	1/4W
R203	1-249-422-11	CARBON	2.7K	5%	1/4W
R204	1-249-422-11	CARBON	2.7K	5%	1/4W
R205	1-249-437-11	CARBON	47K	5%	1/4W
R206	1-249-437-11	CARBON	47K	5%	1/4W
R207	1-249-437-11	CARBON	47K	5%	1/4W
R208	1-249-437-11	CARBON	47K	5%	1/4W
R209	1-249-429-11	CARBON	10K	5%	1/4W
R210	1-249-437-11	CARBON	47K	5%	1/4W
R211	1-249-423-11	CARBON	3.3K	5%	1/4W
R212	1-249-423-11	CARBON	3.3K	5%	1/4W
R213	1-249-429-11	CARBON	10K	5%	1/4W
R214	1-249-437-11	CARBON	47K	5%	1/4W
R215	1-249-429-11	CARBON	10K	5%	1/4W
R216	1-249-441-11	CARBON	100K	5%	1/4W
R217	1-249-411-11	CARBON	330	5%	1/4W
R218	1-249-411-11	CARBON	330	5%	1/4W
R219	1-249-417-11	CARBON	1K	5%	1/4W
R220	1-249-421-11	CARBON	2.2K	5%	1/4W
R231	1-249-429-11	CARBON	10K	5%	1/4W
R232	1-249-425-11	CARBON	4.7K	5%	1/4W
R233	1-249-429-11	CARBON	10K	5%	1/4W

Ref. No.	Part No.	Description				Remark
R234	1-249-393-11	CARBON	10	5%	1/4W	
R235	1-249-417-11	CARBON	1K	5%	1/4W	
R236	1-249-417-11	CARBON	1K	5%	1/4W	
R237	1-249-419-11	CARBON	1.5K	5%	1/4W	
R238	1-249-419-11	CARBON	1.5K	5%	1/4W	
R239	1-249-433-11	CARBON	22K	5%	1/4W	
R241	1-249-413-11	CARBON	470	5%	1/4W	
R242	1-249-417-11	CARBON	1K	5%	1/4W	
R243	1-249-411-11	CARBON	330	5%	1/4W	
R244	1-249-411-11	CARBON	330	5%	1/4W	
R245	1-249-421-11	CARBON	2.2K	5%	1/4W	
R247	1-249-433-11	CARBON	22K	5%	1/4W	
R248	1-249-421-11	CARBON	2.2K	5%	1/4W	
R249	1-249-429-11	CARBON	10K	5%	1/4W	
R250	1-249-429-11	CARBON	10K	5%	1/4W	
R286	1-249-405-11	CARBON	100	5%	1/4W	
R287	1-249-405-11	CARBON	100	5%	1/4W	
R288	1-249-405-11	CARBON	100	5%	1/4W	
R289	1-249-405-11	CARBON	100	5%	1/4W	
R290	1-249-405-11	CARBON	100	5%	1/4W	
R291	1-249-413-11	CARBON	470	5%	1/4W	
R292	1-249-413-11	CARBON	470	5%	1/4W	
R293	1-249-413-11	CARBON	470	5%	1/4W	
R294	1-249-413-11	CARBON	470	5%	1/4W	
R295	1-249-413-11	CARBON	470	5%	1/4W	
R296	1-249-413-11	CARBON	470	5%	1/4W	
R297	1-249-413-11	CARBON	470	5%	1/4W	
R298	1-249-413-11	CARBON	470	5%	1/4W	
R299	1-249-441-11	CARBON	100K	5%	1/4W	
R601	1-249-420-11	CARBON	1.8K	5%	1/4W	
R602	1-247-887-00	CARBON	220K	5%	1/4W	
R604	1-249-418-11	CARBON	1.2K	5%	1/4W	
R605	1-249-441-11	CARBON	100K	5%	1/4W	
R606	1-249-441-11	CARBON	100K	5%	1/4W	
R609	1-249-441-11	CARBON	100K	5%	1/4W	
R610	1-249-441-11	CARBON	100K	5%	1/4W	
R611	1-249-441-11	CARBON	100K	5%	1/4W	
R612	1-249-441-11	CARBON	100K	5%	1/4W	
R613	1-249-441-11	CARBON	100K	5%	1/4W	
R614	1-249-441-11	CARBON	100K	5%	1/4W	
R615	1-249-441-11	CARBON	100K	5%	1/4W	
R616	1-249-429-11	CARBON	10K	5%	1/4W	
R617	1-249-429-11	CARBON	10K	5%	1/4W	
R618	1-249-428-11	CARBON	8.2K	5%	1/4W	
R619	1-249-423-11	CARBON	3.3K	5%	1/4W	
R620	1-249-417-11	CARBON	1K	5%	1/4W	
R621	1-249-417-11	CARBON	1K	5%	1/4W	
R622	1-249-429-11	CARBON	10K	5%	1/4W	

Ref. No.	Part No.	Description				Remark
R623	1-249-429-11	CARBON	10K	5%	1/4W	
R624	1-249-434-11	CARBON	27K	5%	1/4W	
R651	1-249-420-11	CARBON	1.8K	5%	1/4W	
R652	1-247-887-00	CARBON	220K	5%	1/4W	
R654	1-249-418-11	CARBON	1.2K	5%	1/4W	
R655	1-249-441-11	CARBON	100K	5%	1/4W	
R656	1-249-441-11	CARBON	100K	5%	1/4W	
R661	1-249-425-11	CARBON	4.7K	5%	1/4W	
R662	1-249-425-11	CARBON	4.7K	5%	1/4W	
R663	1-249-425-11	CARBON	4.7K	5%	1/4W	
R664	1-249-425-11	CARBON	4.7K	5%	1/4W	
R665	1-249-437-11	CARBON	47K	5%	1/4W	
R666	1-249-437-11	CARBON	47K	5%	1/4W	
R667	1-249-437-11	CARBON	47K	5%	1/4W	
R668	1-247-895-00	CARBON	470K	5%	1/4W	
R669	1-247-895-00	CARBON	470K	5%	1/4W	
R670	1-249-421-11	CARBON	2.2K	5%	1/4W	
R671	1-249-421-11	CARBON	2.2K	5%	1/4W	
R672	1-249-421-11	CARBON	2.2K	5%	1/4W	
R673	1-249-417-11	CARBON	1K	5%	1/4W	
R674	1-249-421-11	CARBON	2.2K	5%	1/4W	
R675	1-249-426-11	CARBON	5.6K	5%	1/4W	
R676	1-249-429-11	CARBON	10K	5%	1/4W	
R677	1-249-429-11	CARBON	10K	5%	1/4W	
R678	1-249-429-11	CARBON	10K	5%	1/4W	
R679	1-249-429-11	CARBON	10K	5%	1/4W	
R680	1-249-429-11	CARBON	10K	5%	1/4W	
R681	1-249-421-11	CARBON	2.2K	5%	1/4W	
R682	1-249-421-11	CARBON	2.2K	5%	1/4W	
R683	1-249-421-11	CARBON	2.2K	5%	1/4W	
R684	1-249-421-11	CARBON	2.2K	5%	1/4W	
R685	1-249-421-11	CARBON	2.2K	5%	1/4W	
R686	1-249-405-11	CARBON	100	5%	1/4W	
R687	1-249-429-11	CARBON	10K	5%	1/4W	
R688	1-247-903-00	CARBON	1M	5%	1/4W	
R689	1-249-429-11	CARBON	10K	5%	1/4W	
R690	1-249-429-11	CARBON	10K	5%	1/4W	
R699	1-249-397-11	CARBON	22	5%	1/4W	
R702	1-249-431-11	CARBON	15K	5%	1/4W	
R703	1-249-437-11	CARBON	47K	5%	1/4W	
R704	1-249-424-11	CARBON	3.9K	5%	1/4W	
R705	1-249-429-11	CARBON	10K	5%	1/4W	
R707	1-249-437-11	CARBON	47K	5%	1/4W	
R708	1-249-437-11	CARBON	47K	5%	1/4W	
R709	1-249-421-11	CARBON	2.2K	5%	1/4W	
R710	1-249-421-11	CARBON	2.2K	5%	1/4W	
R712	1-249-425-11	CARBON	4.7K	5%	1/4W	
R713	1-249-426-11	CARBON	5.6K	5%	1/4W	

MAIN MD-A

Ref. No.	Part No.	Description			Remark
R731	1-249-417-11	CARBON	1K	5%	1/4W
R732	1-249-437-11	CARBON	47K	5%	1/4W
R733	1-249-437-11	CARBON	47K	5%	1/4W
R734	1-247-897-11	CARBON	560K	5%	1/4W
R735	1-249-417-11	CARBON	1K	5%	1/4W
R736	1-249-425-11	CARBON	4.7K	5%	1/4W
R737	1-249-437-11	CARBON	47K	5%	1/4W
R738	1-249-425-11	CARBON	4.7K	5%	1/4W
R740	1-249-425-11	CARBON	4.7K	5%	1/4W
R742	1-249-405-11	CARBON	100	5%	1/4W
R744	1-249-429-11	CARBON	10K	5%	1/4W
R745	1-249-429-11	CARBON	10K	5%	1/4W
R746	1-249-429-11	CARBON	10K	5%	1/4W
R747	1-249-405-11	CARBON	100	5%	1/4W
R748	1-249-405-11	CARBON	100	5%	1/4W
R752	1-249-431-11	CARBON	15K	5%	1/4W
R753	1-249-437-11	CARBON	47K	5%	1/4W
R754	1-249-424-11	CARBON	3.9K	5%	1/4W
R755	1-249-429-11	CARBON	10K	5%	1/4W
R757	1-249-437-11	CARBON	47K	5%	1/4W
R758	1-249-437-11	CARBON	47K	5%	1/4W
R759	1-249-421-11	CARBON	2.2K	5%	1/4W
R760	1-249-421-11	CARBON	2.2K	5%	1/4W
R762	1-249-425-11	CARBON	4.7K	5%	1/4W
R763	1-249-426-11	CARBON	5.6K	5%	1/4W
R771	1-249-429-11	CARBON	10K	5%	1/4W
R772	1-249-429-11	CARBON	10K	5%	1/4W
R773	1-247-870-11	CARBON	43K	5%	1/4W
R774	1-249-437-11	CARBON	47K	5%	1/4W
R775	1-249-437-11	CARBON	47K	5%	1/4W
R776	1-249-437-11	CARBON	47K	5%	1/4W
R781	1-249-417-11	CARBON	1K	5%	1/4W
R782	1-249-437-11	CARBON	47K	5%	1/4W
R783	1-249-437-11	CARBON	47K	5%	1/4W
R784	1-247-897-11	CARBON	560K	5%	1/4W
R785	1-249-417-11	CARBON	1K	5%	1/4W
R786	1-249-425-11	CARBON	4.7K	5%	1/4W
R787	1-249-437-11	CARBON	47K	5%	1/4W
R788	1-249-425-11	CARBON	4.7K	5%	1/4W
R790	1-249-425-11	CARBON	4.7K	5%	1/4W
R791	1-249-417-11	CARBON	1K	5%	1/4W
R792	1-249-414-11	CARBON	560	5%	1/4W
R795	1-249-435-11	CARBON	33K	5%	1/4W
R7001	1-247-883-00	CARBON	150K	5%	1/4W
R7002	1-249-429-11	CARBON	10K	5%	1/4W
R7003	1-249-429-11	CARBON	10K	5%	1/4W
R794A	1-249-411-11	CARBON	330	5%	1/4W
R794B	1-249-433-11	CARBON	22K	5%	1/4W
R8001	1-249-389-11	CARBON	4.7	5%	1/4W (G, IT)
R8002	1-249-389-11	CARBON	4.7	5%	1/4W (G, IT)
		< VARIABLE RESISTOR >			
RV81	1-238-601-11	RES, ADJ, CARBON 22K			
RV82	1-238-601-11	RES, ADJ, CARBON 22K			
RV701	1-238-601-11	RES, ADJ, CARBON 22K			
RV751	1-238-601-11	RES, ADJ, CARBON 22K			
		< SWITCH >			
S701	1-572-185-11	SWITCH, SLIDE (ISS)			
S702	1-554-088-00	SWITCH, KEY BOARD (SYSTEM RESET)			
		< TERMINAL >			
* TB1	1-537-138-31	TERMINAL BOARD (ANTENNA)			
		< TEST PIN >			
* TP81	1-568-449-11	HOUSING, CONNECTOR (PC BOARD) 3P			
* TP601	1-568-449-11	HOUSING, CONNECTOR (PC BOARD) 3P			
* TP701	1-568-449-11	HOUSING, CONNECTOR (PC BOARD) 3P			
* TP702	1-568-449-11	HOUSING, CONNECTOR (PC BOARD) 3P			
		< VIBRATOR >			
X51	1-577-126-11	VIBRATOR, CRYSTAL (7.2MHz)			
X81	1-577-075-11	OSCILLATOR, CERAMIC (456kHz)			
X201	1-577-358-21	VIBRATOR, CERAMIC (4MHz)			
X251	1-567-908-11	VIBRATOR, CRYSTAL (16.9344MHz)			
X601	1-577-358-21	VIBRATOR, CERAMIC (4MHz)			
**********					
*	1-624-147-11	MD-A BOARD			
		**********			
		< CAPACITOR >			
C41A	1-162-289-31	CERAMIC	390PF	10%	50V
C42A	1-136-157-00	FILM	0.022uF	5%	50V
C43A	1-124-282-00	ELECT	22uF	20%	16V
C48A	1-162-217-31	CERAMIC	56PF	5%	50V
C61A	1-162-289-31	CERAMIC	390PF	10%	50V
C62A	1-136-157-00	FILM	0.022uF	5%	50V
C63A	1-124-282-00	ELECT	22uF	20%	16V
C68A	1-162-217-31	CERAMIC	56PF	5%	50V
C81A	1-126-101-11	ELECT	100uF	20%	16V
C82A	1-126-101-11	ELECT	100uF	20%	16V
		< CONNECTOR >			
* CNP12A	1-564-337-00	PIN, CONNECTOR 3P			
* CNP13A	1-564-707-11	PIN, CONNECTOR (SMALL TYPE) 5P			
* CNP81A	1-564-706-11	PIN, CONNECTOR (SMALL TYPE) 4P			
* CNP82A	1-564-339-00	PIN, CONNECTOR 5P			

Ref. No.	Part No.	Description			Remark
		< IC >			
IC81A	8-759-111-44	IC uPC4570C-1			
		< TRANSISTOR >			
Q11A	8-729-119-76	TRANSISTOR 2SA1175-HFE			
		< RESISTOR >			
R17A	1-249-437-11	CARBON	47K	5%	1/4W
R18A	1-249-437-11	CARBON	47K	5%	1/4W
R41A	1-247-881-00	CARBON	120K	5%	1/4W
R42A	1-249-405-11	CARBON	100	5%	1/4W
R43A	1-247-882-11	CARBON	130K	5%	1/4W
R44A	1-249-426-11	CARBON	5.6K	5%	1/4W
R61A	1-247-881-00	CARBON	120K	5%	1/4W
R62A	1-249-405-11	CARBON	100	5%	1/4W
R63A	1-247-882-11	CARBON	130K	5%	1/4W
R64A	1-249-426-11	CARBON	5.6K	5%	1/4W
R81A	1-249-409-11	CARBON	220	5%	1/4W
R82A	1-249-409-11	CARBON	220	5%	1/4W
		< VARIABLE RESISTOR >			
RV41A	1-228-989-00	RES, ADJ, METAL 470			
RV61A	1-228-989-00	RES, ADJ, METAL 470			
**********					
*	1-624-146-11	MD-B BOARD			
		**********			
		< CAPACITOR >			
C41B	1-162-289-31	CERAMIC	390PF	10%	50V
C42B	1-136-157-00	FILM	0.022uF	5%	50V
C43B	1-124-282-00	ELECT	22uF	20%	16V
C44B	1-162-288-31	CERAMIC	330PF	10%	50V
C45B	1-136-273-91	FILM	75PF	5%	630V
C47B	1-162-209-31	CERAMIC	27PF	5%	50V
C48B	1-162-217-31	CERAMIC	56PF	5%	50V
C61B	1-162-289-31	CERAMIC	390PF	10%	50V
C62B	1-136-157-00	FILM	0.022uF	5%	50V
C63B	1-124-282-00	ELECT	22uF	20%	16V
C64B	1-162-288-31	CERAMIC	330PF	10%	50V
C65B	1-136-273-91	FILM	75PF	5%	630V
C67B	1-162-209-31	CERAMIC	27PF	5%	50V
C68B	1-162-217-31	CERAMIC	56PF	5%	50V
C81B	1-126-101-11	ELECT	100uF	20%	16V
C82B	1-126-101-11	ELECT	100uF	20%	16V
C83B	1-124-903-11	ELECT	1uF	20%	50V
C84B	1-124-925-11	ELECT	2.2uF	20%	100V
C85B	1-130-480-00	MYLAR	0.0056uF	5%	50V
C86B	1-130-476-00	MYLAR	0.0027uF	5%	50V
C87B	1-130-476-00	MYLAR	0.0027uF	5%	50V
C88B	1-136-562-11	FILM	0.0082uF	5%	630V
C89B	1-161-494-00	CERAMIC	0.022uF		25V
		< CONNECTOR >			
* CNP12B	1-564-337-61	PIN, CONNECTOR 3P			
* CNP13B	1-564-707-11	PIN, CONNECTOR (SMALL TYPE) 5P			
* CNP81B	1-564-709-11	PIN, CONNECTOR (SMALL TYPE) 7P			
* CNP82B	1-564-339-61	PIN, CONNECTOR 5P			
* CNP83B	1-564-338-61	PIN, CONNECTOR 4P			
* CNP84B	1-564-704-11	PIN, CONNECTOR (SMALL TYPE) 2P			
		< DIODE >			
D81B	8-719-107-94	DIODE 1SS202-1			
		< IC >			
IC81B	8-759-111-44	IC uPC4570C-1			
		< COIL >			
L41B	1-410-780-11	INDUCTOR	27mH		
L61B	1-410-780-11	INDUCTOR	27mH		
		< TRANSISTOR >			
Q11B	8-729-119-76	TRANSISTOR 2SA1175-HFE			
Q81B	8-729-111-29	TRANSISTOR 2SD1616A-K			
Q82B	8-729-142-46	TRANSISTOR 2SC2001-LK			
Q83B	8-729-142-46	TRANSISTOR 2SC2001-LK			
		< RESISTOR >			
R17B	1-249-437-11	CARBON	47K	5%	1/4W
R18B	1-249-437-11	CARBON	47K	5%	1/4W
R41B	1-247-881-00	CARBON	120K	5%	1/4W
R42B	1-249-405-11	CARBON	100	5%	1/4W
R43B	1-247-882-11	CARBON	130K	5%	1/4W
R44B	1-249-426-11	CARBON	5.6K	5%	1/4W
R45B	1-249-430-11	CARBON	12K	5%	1/4W
R61B	1-247-881-00	CARBON	120K	5%	1/4W
R62B	1-249-405-11	CARBON	100	5%	1/4W
R63B	1-247-882-11	CARBON	130K	5%	1/4W
R64B	1-249-426-11	CARBON	5.6K	5%	1/4W
R65B	1-249-430-11	CARBON	12K	5%	1/4W
R81B	1-249-409-11	CARBON	220	5%	1/4W
R82B	1-249-409-11	CARBON	220	5%	1/4W
R83B	1-249-429-11	CARBON	10K	5%	1/4W
⚠ R84B	1-212-849-00	FUSIBLE	4.7	5%	1/4W F
R85B	1-249-435-11	CARBON	33K	5%	1/4W

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

MD-B | POWER | SHIELD | SW

Ref. No.	Part No.	Description			Remark
R86B	1-249-435-11	CARBON	33K	5%	1/4W
		< VARIABLE RESISTOR >			
RV41B	1-228-989-00	RES, ADJ, METAL 470			
RV42B	1-230-725-11	RES, ADJ, CARBON 220K			
RV61B	1-228-989-00	RES, ADJ, METAL 470			
RV62B	1-230-725-11	RES, ADJ, CARBON 220K			
		< RELAY >			
RY81B	1-515-519-00	RELAY			
RY81B	1-515-614-11	RELAY			
		< TRANSFORMER >			
T81B	1-433-337-11	TRANSFORMER, BIAS OSCILLATION			
**********					
*	1-634-483-13	POWER BOARD			
		**********			
		< CAPACITOR >			
C801	1-124-907-11	ELECT	10uF	20%	50V
C802	1-162-290-31	CERAMIC	470PF	10%	50V (AEP, UK)
C803	1-126-233-11	ELECT	22uF	20%	50V
C804	1-164-159-11	CERAMIC	0.1uF		50V
C805	1-164-159-11	CERAMIC	0.1uF		50V
C809	1-162-294-31	CERAMIC	0.001uF	10%	50V (G, IT)
C851	1-124-907-11	ELECT	10uF	20%	50V
C852	1-162-290-31	CERAMIC	470PF	10%	50V (AEP, UK)
C853	1-126-233-11	ELECT	22uF	20%	50V
C854	1-164-159-11	CERAMIC	0.1uF		50V
C855	1-164-159-11	CERAMIC	0.1uF		50V
C859	1-162-294-31	CERAMIC	0.001uF	10%	50V (G, IT)
⚠C874	1-124-484-11	ELECT	220uF	20%	35V
⚠C875	1-124-907-11	ELECT	10uF	20%	50V
C876	1-124-907-11	ELECT	10uF	20%	50V
⚠C877	1-124-907-11	ELECT	10uF	20%	50V
⚠C878	1-124-910-11	ELECT	47uF	20%	50V
⚠C879	1-124-910-11	ELECT	47uF	20%	50V
C880	1-124-910-11	ELECT	47uF	20%	50V
C899	1-164-159-11	CERAMIC	0.1uF		50V
C8002	1-162-294-31	CERAMIC	0.001uF	10%	50V (G, IT)
C8003	1-164-159-11	CERAMIC	0.1uF		50V (G, IT)
C8004	1-164-159-11	CERAMIC	0.1uF		50V (G, IT)
		< CIRCUIT BREAKER >			
⚠CB801	1-532-564-00	BREAKER, CIRCUIT (2.2A)			
⚠CB851	1-532-564-00	BREAKER, CIRCUIT (2.2A)			

Ref. No.	Part No.	Description			Remark
		< IC >			
⚠IC801	8-749-920-13	IC STK-4132MK2			
		< RESISTOR >			
R801	1-249-417-11	CARBON	1K	5%	1/4W
R802	1-249-438-11	CARBON	56K	5%	1/4W
R803	1-249-416-11	CARBON	820	5%	1/4W
R804	1-249-438-11	CARBON	56K	5%	1/4W
R805	1-249-389-11	CARBON	4.7	5%	1/4W
R851	1-249-417-11	CARBON	1K	5%	1/4W
R852	1-249-438-11	CARBON	56K	5%	1/4W
R853	1-249-416-11	CARBON	820	5%	1/4W
R854	1-249-438-11	CARBON	56K	5%	1/4W
R855	1-249-389-11	CARBON	4.7	5%	1/4W
R873	1-249-429-11	CARBON	10K	5%	1/4W
R874	1-247-883-00	CARBON	150K	5%	1/4W
R875	1-249-421-11	CARBON	2.2K	5%	1/4W
R876	1-249-421-11	CARBON	2.2K	5%	1/4W
⚠R877	1-212-881-11	FUSIBLE	100	5%	1/4W F
R878	1-249-417-11	CARBON	1K	5%	1/4W
R879	1-249-417-11	CARBON	1K	5%	1/4W
⚠R880	1-212-881-11	FUSIBLE	100	5%	1/4W F
R881	1-249-421-11	CARBON	2.2K	5%	1/4W
R882	1-249-421-11	CARBON	2.2K	5%	1/4W
⚠R883	1-212-881-11	FUSIBLE	100	5%	1/4W F
		< TERMINAL >			
TB801	1-537-238-11	TERMINAL BOARD (SPEAKER)			
**********					
*	1-634-870-11	SHIELD BOARD			
		**********			
		< CAPACITOR >			
C528	1-124-907-11	ELECT	10uF	20%	50V
C529	1-125-447-11	DOUBLE LAYERS	1F		5.5V
		< CONNECTOR >			
* CN504	1-564-336-00	PIN, CONNECTOR 2P			
**********					
*	1-634-477-11	SW BOARD			
		********			
		< CONNECTOR >			
* CN203	1-569-156-11	SOCKET, CONNECTOR 10P			
CN301	1-569-225-11	SOCKET, CONNECTOR 14P			

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

SW TRANSFORMER

Ref. No.	Part No.	Description	Remark
		< DIODE >	
D206	8-719-984-16	LED GL-1HY112-CD (STOP)	
D207	8-719-984-17	LED GL-1EG112-CD (PLAY)	
D301	8-719-984-17	LED GL-1EG112-CD (A FWD)	
D302	8-719-984-17	LED GL-1EG112-CD (A RVS)	
D303	8-719-984-17	LED GL-1EG112-CD (B FWD)	
D304	8-719-984-17	LED GL-1EG112-CD (B RVS)	
D305	8-719-984-17	LED GL-1EG112-CD (AMS/BLK)	
D306	8-719-984-15	LED GL-1HD112-DE (TAPE/HIGH)	
D307	8-719-984-15	LED GL-1HD112-DE (CD)	
D308	8-719-984-15	LED GL-1HD112-DE (REC)	
D309	8-719-984-16	LED GL-1HY112-CD (STOP)	
		< TRANSISTOR >	
Q351	8-729-900-61	TRANSISTOR DTA114ES	
Q352	8-729-900-61	TRANSISTOR DTA114ES	
Q353	8-729-900-61	TRANSISTOR DTA114ES	
Q354	8-729-900-61	TRANSISTOR DTA114ES	
		< RESISTOR >	
R221	1-249-409-11	CARBON 220 5%	1/4W
R222	1-249-409-11	CARBON 220 5%	1/4W
R223	1-249-437-11	CARBON 47K 5%	1/4W
R224	1-249-437-11	CARBON 47K 5%	1/4W
R225	1-249-437-11	CARBON 47K 5%	1/4W
R226	1-249-437-11	CARBON 47K 5%	1/4W
R301	1-249-407-11	CARBON 150 5%	1/4W
R302	1-249-411-11	CARBON 330 5%	1/4W
R303	1-249-407-11	CARBON 150 5%	1/4W
R304	1-249-411-11	CARBON 330 5%	1/4W
R305	1-249-411-11	CARBON 330 5%	1/4W
R306	1-249-412-11	CARBON 390 5%	1/4W
R307	1-249-416-11	CARBON 820 5%	1/4W
R308	1-249-412-11	CARBON 390 5%	1/4W
R309	1-249-411-11	CARBON 330 5%	1/4W
R310	1-247-832-11	CARBON 1.1K 5%	1/4W
R311	1-249-417-11	CARBON 1K 5%	1/4W
R312	1-249-420-11	CARBON 1.8K 5%	1/4W
R313	1-249-424-11	CARBON 3.9K 5%	1/4W
R314	1-249-407-11	CARBON 150 5%	1/4W
R315	1-249-409-11	CARBON 220 5%	1/4W
R316	1-249-411-11	CARBON 330 5%	1/4W
R317	1-247-832-11	CARBON 1.1K 5%	1/4W
R318	1-249-417-11	CARBON 1K 5%	1/4W
R319	1-249-430-11	CARBON 12K 5%	1/4W
R320	1-249-426-11	CARBON 5.6K 5%	1/4W

Ref. No.	Part No.	Description	Remark
		< SWITCH >	
S201	1-572-184-11	SWITCH, KEYBOARD (EDIT)	
S202	1-572-184-11	SWITCH, KEYBOARD (STOP)	
S203	1-572-184-11	SWITCH, KEYBOARD (PAUSE)	
S204	1-572-184-11	SWITCH, KEYBOARD (OPEN/CLOSE)	
S205	1-572-184-11	SWITCH, KEYBOARD (SEARCH FF)	
S206	1-572-184-11	SWITCH, KEYBOARD (SEARCH RWD)	
S207	1-572-184-11	SWITCH, KEYBOARD (FF)	
S208	1-572-184-11	SWITCH, KEYBOARD (REW)	
S209	1-572-184-11	SWITCH, KEYBOARD (REPEAT)	
S210	1-572-184-11	SWITCH, KEYBOARD (CONTINUE)	
S211	1-572-184-11	SWITCH, KEYBOARD (SHUFFLE)	
S212	1-572-184-11	SWITCH, KEYBOARD (PROGRAM)	
S214	1-572-184-11	SWITCH, KEYBOARD (TIME)	
S301	1-572-184-11	SWITCH, KEYBOARD (STOP) (DECK A)	
S302	1-572-184-11	SWITCH, KEYBOARD (REW) (DECK A)	
S303	1-572-184-11	SWITCH, KEYBOARD (RVS) (DECK A)	
S304	1-572-184-11	SWITCH, KEYBOARD (FWD) (DECK A)	
S305	1-572-184-11	SWITCH, KEYBOARD (FF) (DECK A)	
S306	1-572-184-11	SWITCH, KEYBOARD (STOP) (DECK B)	
S307	1-572-184-11	SWITCH, KEYBOARD (REW) (DECK B)	
S308	1-572-184-11	SWITCH, KEYBOARD (RVS) (DECK B)	
S309	1-572-184-11	SWITCH, KEYBOARD (FWD) (DECK B)	
S310	1-572-184-11	SWITCH, KEYBOARD (FF) (DECK B)	
S311	1-572-184-11	SWITCH, KEYBOARD (AMS/BLK SKIP)	
S312	1-572-184-11	SWITCH, KEYBOARD (TAPE DUBBING HIGH SPEED)	
S313	1-572-184-11	SWITCH, KEYBOARD (CD SYNCHRO)	
S314	1-572-184-11	SWITCH, KEYBOARD (REC)	
S315	1-572-184-11	SWITCH, KEYBOARD (PAUSE)	
S351	1-570-849-11	SWITCH, SLIDE (DOLBY NR)	
S352	1-570-837-11	SWITCH, SLIDE (DIRECTION MODE)	
**********			
*	1-634-474-11	TRANSFORMER BOARD	
		**********	
		< CAPACITOR >	
C901	1-164-159-11	CERAMIC 0.1uF	50V
C902	1-164-159-11	CERAMIC 0.1uF	50V
C903	1-126-160-11	ELECT 1uF 20%	50V (G, IT)
⚠C905	1-126-233-11	ELECT 22uF 20%	50V
⚠C906	1-124-556-11	ELECT 2200uF 20%	16V
C907	1-124-572-11	ELECT 100uF 20%	63V
C909	1-126-163-11	ELECT 4.7uF 20%	50V
C911	1-126-163-11	ELECT 4.7uF 20%	50V
C912	1-126-157-11	ELECT 10uF 20%	16V
⚠C913	1-126-163-11	ELECT 4.7uF 20%	50V
C915	1-126-163-11	ELECT 4.7uF 20%	50V

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Replace only with part number specified.

TRANSFORMER VR

Ref. No.	Part No.	Description			Remark
C916	1-126-163-11	ELECT	4.7uF	20%	50V
C917	1-126-163-11	ELECT	4.7uF	20%	50V
C920	1-164-159-11	CERAMIC	0.1uF		50V
C921	1-164-159-11	CERAMIC	0.1uF		50V
⚠C922	1-126-163-11	ELECT	4.7uF	20%	50V
		< CONNECTOR >			
⚠CN901	1-526-931-11	INLET, AC (AC IN)			
* CN902	1-568-858-11	SOCKET, CONNECTOR 15P			
* CN903	1-565-484-11	CONNECTOR, BOARD TO BOARD 8P			
		< DIODE >			
⚠D901	8-719-912-20	DIODE	1SS120		
⚠D902	8-719-912-20	DIODE	1SS120		
⚠D903	8-719-200-82	DIODE	11ES2		
⚠D904	8-719-200-82	DIODE	11ES2		
D907	8-719-200-82	DIODE	11ES2		
D908	8-719-200-82	DIODE	11ES2		
D909	8-719-312-09	DIODE	RBA-402		
D910	8-719-002-33	DIODE	UZL-24L		
D911	8-719-014-64	DIODE	UZP-5.1BC		
D912	8-719-933-36	DIODE	HZS6B1L		
		< COIL >			
⚠FB901	1-410-858-11	INDUCTOR	0UH (G, IT)		
⚠FB902	1-410-858-11	INDUCTOR	0UH (G, IT)		
⚠FB903	1-410-858-11	INDUCTOR	0UH (G, IT)		
		< IC >			
IC901	8-759-602-66	IC	M5230L-A		
		< IC LINK >			
⚠ICP999	1-532-846-11	LINK, IC (5A)			
		< TRANSISTOR >			
Q901	8-729-620-05	TRANSISTOR	2SC2603-EF		
Q903	8-729-924-90	TRANSISTOR	2SB1370-EF		
Q904	8-729-924-90	TRANSISTOR	2SB1370-EF		
Q905	8-729-920-98	TRANSISTOR	2SD1761-EF		
Q906	8-729-920-98	TRANSISTOR	2SD1761-EF		
Q907	8-729-900-80	TRANSISTOR	DTC114ES		
Q908	8-729-900-80	TRANSISTOR	DTC114ES		
		< RESISTOR >			
R901	1-249-419-11	CARBON	1.5K	5%	1/4W
R902	1-249-429-11	CARBON	10K	5%	1/4W
R903	1-249-421-11	CARBON	2.2K	5%	1/4W
R904	1-249-433-11	CARBON	22K	5%	1/4W

Ref. No.	Part No.	Description			Remark
⚠R905	1-212-934-00	FUSIBLE	1	5%	1/2W F
⚠R906	1-212-934-00	FUSIBLE	1	5%	1/2W F
⚠R907	1-212-934-00	FUSIBLE	1	5%	1/2W F
R908	1-249-425-11	CARBON	4.7K	5%	1/4W
R909	1-249-433-11	CARBON	22K	5%	1/4W
R910	1-247-903-00	CARBON	1M	5%	1/4W
R911	1-249-405-11	CARBON	100	5%	1/4W
R912	1-249-432-11	CARBON	18K	5%	1/4W
R913	1-249-432-11	CARBON	18K	5%	1/4W
R914	1-247-842-11	CARBON	3K	5%	1/4W
R915	1-249-429-11	CARBON	10K	5%	1/4W
R917	1-249-413-11	CARBON	470	5%	1/4W
**********					
*	1-634-476-11	VR BOARD (VOLUME) (INCLUDING VOL LED) **********			
		< CAPACITOR >			
C410	1-126-157-11	ELECT	10uF	20%	16V
C416	1-124-463-00	ELECT	0.1uF	20%	50V
C417	1-126-157-11	ELECT	10uF	20%	16V
C418	1-126-157-11	ELECT	10uF	20%	16V
C419	1-126-157-11	ELECT	10uF	20%	16V
C420	1-126-157-11	ELECT	10uF	20%	16V
C421	1-126-157-11	ELECT	10uF	20%	16V
C422	1-126-157-11	ELECT	10uF	20%	16V
C423	1-164-159-11	CERAMIC	0.1uF		50V
C460	1-126-157-11	ELECT	10uF	20%	16V
		< CONNECTOR >			
* CN403	1-568-827-11	SOCKET, CONNECTOR 8P			
* CN404	1-564-720-11	PIN, CONNECTOR (SMALL TYPE) 4P			
		< DIODE >			
D406	8-719-912-20	DIODE	1SS120		
		< IC >			
IC406	8-759-820-62	IC	LB1639		
		< TRANSISTOR >			
Q406	8-729-904-39	TRANSISTOR	DTC114TS		
Q407	8-729-904-39	TRANSISTOR	DTC114TS		
Q456	8-729-904-39	TRANSISTOR	DTC114TS		
Q457	8-729-904-39	TRANSISTOR	DTC114TS		
		< RESISTOR >			
R416	1-249-405-11	CARBON	100	5%	1/4W

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description			Remark
R417	1-249-425-11	CARBON	4.7K	5%	1/4W
R419	1-249-417-11	CARBON	1K	5%	1/4W
R426	1-249-417-11	CARBON	1K	5%	1/4W
R427	1-249-441-11	CARBON	100K	5%	1/4W
R428	1-247-903-00	CARBON	1M	5%	1/4W
R429	1-249-417-11	CARBON	1K	5%	1/4W
R430	1-249-425-11	CARBON	4.7K	5%	1/4W
R431	1-249-425-11	CARBON	4.7K	5%	1/4W
R432	1-249-429-11	CARBON	10K	5%	1/4W
R457	1-249-429-11	CARBON	10K	5%	1/4W
R466	1-249-405-11	CARBON	100	5%	1/4W
R467	1-249-425-11	CARBON	4.7K	5%	1/4W
R469	1-249-417-11	CARBON	1K	5%	1/4W
R486	1-249-413-11	CARBON	470	5%	1/4W
R487	1-249-429-11	CARBON	10K	5%	1/4W
		< VARIABLE RESISTOR >			
RV406	1-238-865-11	RES, VAR, CARBON (MOTOR) 100KX2			
**********					
		MISCELLANEOUS			
		**********			
* 12	1-562-908-11	CONNECTOR, FEMALE (NO SHIELD) (G, IT)			
67	1-575-675-11	WIRE, FLAT TYPE (14 CORE)			
68	1-575-674-11	WIRE, FLAT TYPE (8 CORE)			
69	1-575-672-11	WIRE, FLAT TYPE (13 CORE)			
70	1-575-673-11	WIRE, FLAT TYPE (15 CORE)			
252	1-535-832-12	JUMPER, FILM (WITH TERMINAL)			
⚠305	8-848-144-11	PISKUP, OPTICAL KSS-240A			
307	1-575-001-11	WIRE, FLAT TYPE (12 CORE)			
ANT1	1-501-321-51	ANTENNA, TELESCOPIC (H160)			
D522	8-719-313-39	DIODE SEL1910DM-LCO-CD			
D523	8-719-313-39	DIODE SEL1910DM-LCO-CD			
F901	1-532-215-00	FUSE, TIME-LAG (0.8A)			
HE1	A-2003-504-A	CHASSIS ASSY, HEAD (REC/PB/ERASE) (DECK B)			
HP1	A-2003-503-A	HEAD BOARD, COMPLETE (PB) (DECK A)			
HRP1	A-2003-504-A	CHASSIS ASSY, HEAD (REC/PB/ERASE) (DECK B)			
IC801	8-749-920-13	IC STK-4132-2			
M1	X-3343-447-1	MOTOR ASSY (DECK A)			
M2	X-3343-447-1	MOTOR ASSY (DECK B)			
M101	X-4917-504-1	MOTOR ASSY (SLED)			
M102	X-4917-523-3	MOTOR ASSY (SPINDLE)			
M251	A-4608-362-A	MOTOR (L) ASSY (LOADING)			
PM1	1-454-456-11	SOLENOID, PLUNGER (DECK A)			
PM2	1-454-456-11	SOLENOID, PLUNGER (DECK B)			
⚠T901	1-450-937-11	TRANSFORMER, POWER			

Ref. No.	Part No.	Description	Remark
**********			
		ACCESSORIES & PACKING MATERIALS	
		**********	
	1-465-342-11	REMOTE COMMANDER (RM-S100)	
	1-501-369-11	ANTENNA (UK)	
	1-501-374-11	ANTENNA, LOOP (UK)	
	1-558-032-11	CORD, POWER (UK)	
	2-181-754-01	COVER, BATTERY	
	3-755-091-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, SPANISH, PORTUGUESE)	(UK)
*	4-936-852-01	CUSHION (LOWER)	
*	4-936-853-01	CUSHION (UPPER)	
*	4-936-899-01	CUSHION	
*	4-952-042-01	INDIVIDUAL CARTON (UK)	
**********			

HARDWARE LIST

#1	7-682-549-09	SCREW +BVTT 3X10 (S)
#2	7-685-648-79	SCREW +BVTP 3X12 TYPE2 N-S
#3	7-685-645-79	SCREW +BVTP 3X6 TYPE2 IT-3
#4	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S
#5	7-685-650-79	SCREW +BVTP 3X16 TYPE2 IT-3
#6	7-682-547-04	SCREW +BVTT 3X6 (S)
#7	7-623-508-01	LUG, 3 (G, IT)
#8	7-685-649-79	SCREW +BVTP 3X14 TYPE2 N-S (H160)
#9	7-621-773-86	SCREW +BVTT 2.6X4 (S)
#10	7-624-105-04	RETAINING, RING E-2.3
#11	7-621-255-15	SCREW +PTT 2X3 (S)
#12	7-621-770-67	SCREW +PTT 2.6X6 (S)
#13	7-627-556-28	SCREW +P 2.6X3.5
#14	7-685-104-19	SCREW +P 2X6 TYPE2 NON-SLIT
#15	7-685-234-19	SCREW +KTP 2.6X8 TYPE2NON-SLIT
#16	7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3
#17	7-621-775-10	SCREW +B 2.6X4
#18	7-685-134-19	SCREW +BTP 2.6X8 TYPE2 N-S

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